	2km E Mt Wilhelmina 3800m	7K NE Mt. Wilhelmina 3600m.	Lake Habbema 3225m	9K NE Lake Habbema 2800m	Bele River 2200m	Balim River 1600m	18km SW Bernhard Camp 2150m.	15K SW Bernhard Camp 1800m	6K SW Bernhard Camp 1200m	4K SW Bernhard Camp 850m	Bernhard Camp 60m	Holland's Sea level
1 Anisomys imitator				—	—		—	- - -	—			
2 Canis familiaris	- - -	—	- - -	- - -	- - -	—	—	- - -	- - -	—	—	
3 Dactylonax palpator				—	—		- - -	- - -	- - -	—		
4 Dasyurus albopunctatus		—	—	—	—		- - -	—	—	—	—	
5 Dendrolagus finschi												—
6 Dobsonia (Large)											—	—
7 Dobsonia (Small)											—	
8 Eudromicia caudata	—	—	—	—	—	—						
9 Halicore dugong												—
10 Hydromys habbema		—	—									
11 Hydromys asper				—	—		- - -	- - -	—			
12 Hydromys chrysogaster										—	—	—

Anisomys imitator — This bog rat with the laterally compressed lower incisors were taken at 4 different camps ranging in altitude from 2800 m to 1200 m.

Four specimens were obtained at the 2800 m camp. One of them was caught in a trap set in a well defined runway on the floor of the mossy beech forest. The trail though it had a definite direction seemed to avoid the heavy littered areas following a course through the open bushy undergrowth over the moss covered forest floor. Two other specimens were taken in a somewhat similar habitat 100 m below the camp. The other specimen recorded from the camp was brought in by natives. It was probably taken at a lower altitude for the leaves in which it was wrapped were dry and the skin itself was dry as if having been caught a day or two previously. It had apparently been taken

in a dead fall.

At the Bele River camp 98 specimens were prepared all of which were brought in by the natives. These were taken in dead falls as described on p. —. In the series there were two or more lactating ♀s. The fact that immature animals as well as lactating ♀s were taken would indicate that the breeding season, if there is one, must be long. The mammary formula is 1-1 anteriorly and 2-2 posteriorly. The anterior pair being situated either high on the side just back of the front legs where the dark color of the dorsal surface meets the light color of the ventral. On the chest of many of the mammals between the front legs there is an oily appearing spot varying in size from 5 to 8 mm in length. I have no information as to its use.

A single ♀ specimen was taken at the

2150 m camp. The trap in which it was caught was set in a well defined runway through a bamboo thicket at the base of a large tree in the rather open mossy forest. These runways were quite common in this region and may or may not have been made by Anisomys for all the mammals as Chromys, and Perogeles, were found to use them as well. The mammae of this individual were enlarged but there was no sign of lactation nor was the embryos or enlarged uterus.

No specimens were taken at the 1800 m camp although they probably occured there.

At the 1200 m camp 2 specimens were obtained. One was brought in by a collector, and the other was taken in a trap set on a log forming a bridge across a stream. This stream flows in a V shaped rocky canyon with steep moist walls vegetated with mossy forest. The trees of the primary

forest were scattered letting in considerable light & th moderately thick undergrowth and second story vegetation.

Anisomys imitator. This large rat with the laterally compressed lower incisors was taken at 4 different camps, ranging in altitude from 2800 m. to 1200 m.

Four specimens were obtained at the 2800 m. camp. One of them was caught in a trap set in a well defined runway on the floor of the mossy beech forest. This trail, though it had a definite direction, served to avoid the heavy littered areas, following a course through the open bushy undergrowth over the moss covered forest floor. Two other specimens were taken in a somewhat similar habitat 100 m. below the camp. The other specimen recorded from the camp was brought in by natives. It was probably taken at a lower altitude, for the leaves in which it was wrapped were dry and the skin itself was dry, as if it had been caught a day or two before. It had apparently been taken in a deadfall.

At the Bele River Camp 98 specimens were prepared, all of which were brought in by the natives. These were taken in deadfalls as described on p. . In the series there were two or more lactating ♀'s. The fact that immature animals as well as lactating ♀'s were taken would indicate that the breeding season, if there is one,

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A single ♀ specimen was taken at the 2150 m. camp. The trap in which it was caught was set in a well defined runway through a bamboo thicket at the base of a large tree in the rather open mossy forest. These runways were quite common in this region, and may or may not have been made by Anisomys, for other mammals, as Uromys and Peroryctes, were found to use them as well. The mammae of this individual were enlarged but this was no sign of lactation nor was there an embryo or enlarged uterus.

No specimens were taken at the 1800 m. camp, although they probably occurred there.

At the 1200 m. camp 2 specimens were obtained. One was brought in by a collector, and the other was taken in a trap set on a log forming a bridge across a stream. This stream flows in a V shaped rocky canyon with steep moist walls vegetated with mossy forest.

The trees of the primary forest were scattered, letting in considerable light to the moderately thick undergrowth and second story vegatation.

Wm. B. Richardson
1938

Anisomys

Oct 23 9 km N C Lake Habbema, Netherlands New Guinea 2800 m.
1 in 29 steel traps. The trap was set in a swampy thicket, the open bushy edge of the mossy forest. The trail was well defined and directional. Although there was litter in the vicinity the trail was not beneath the logs and rock but rather it followed the more open areas where there are ~~the~~ ~~are~~ scattered thin bush thickets and open moss and leaf covered forest floor.

Oct 28 9 km N C Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives. It had probably been brought up from below for the leaves in which the body was wrapped were dry and the skin itself was dry as if having been caught a day or more ago. It was apparently taken in a dead fall.

Oct 30 9 km N C Lake Habbema, Netherlands New Guinea 2700 m.
1 in 29 steel traps. Brought in and prepared by collectors.

Nov 5 9 km N C Lake Habbema, Netherlands New Guinea 2700 m.
1 in 29 steel traps. Brought in by collectors.

Nov 8 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 12 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 14 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by native.

Nov 15 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 16 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 17 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 19 Bele R. 18 km N Lake Habbema, Netherlands New Guinea. 2200 m.
6 brought in by natives.

Nov 20 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives

Nov 21 Bele R. 18 km N Lake Habbema Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 22 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives.

Nov 23 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
6 brought in by natives. Two adult females were or had been recently suckling young (♀♀)
The forward pair were set high on the side of the head and back of the lower edge of the shoulder blade.

Nov 24 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
9 brought in by natives. Between the ~~four~~ legs there is a spot of greasy or oily hair, which leads one to believe that there is an "oil gland" in this vicinity although ~~any~~ eye cannot detect any modified skin structure below the greasy hair.

Nov 25 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives.

Nov 26 Bele R. 18 km N Lake Habbema Netherlands New Guinea 2200 m.
7 brought in by natives

Nov 27 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives.

Wm B. Richardson
1938
1939

Anisomys

Nov 28 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
11 brought in by natives.

Nov 29 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives.

Nov 30 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives.

Dec 1 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives. mom. $\frac{1}{1}$ $\frac{2}{2}$

Dec 2 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
8 brought in by natives.

Dec 3 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
2 brought in by natives.

Dec 4 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
10 brought in by natives.

Feb 4 18 km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 2150 m.
1 in 224 rat traps. Taken in trap set in runway about the base of a large tree. The region or rather the habitat was mossy forest with bamboo undergrowth. About the base of the tree, however, there was an unusually dense brushy thicket which provided a good cover to the animal. The testes were enlarged but no signs of lactation were there ~~young~~ evid. of an enlargement of the uterus.

Mar. 2 6 km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
1 in 27 stick traps. Trap set on a large log crossing a stream. The stream itself flows in a ~~wide~~ U shaped rocky canyon bisin. The log formed a bridge across the creek from one vegetated slope to another. Habitat is steep moist hill slope vegetated with thick undergrowth and

second story vegetation. The primary forest trees are scattered and do not form a complete canopy. Stomach ~~content~~ was empty. Mammary glands – 2 posterior pair and 1 anterior pair.

Mar. 5 6 Km. SW Berkhard Camp, Idenburg R., Netherlands New Guinea 1200 m.
1 in 27 stub traps. Brought in by collectors. Stomach empty.

Canis familiaris — No dogs were taken from the vicinity of Lake Habbema or above although dung and tracks of them were commonly seen up as high as 4000 m. on the ridges or along the muddy foot paths. While camped there I did not hear them vocalize but Mr. L. J. Brass reports having heard them howl on several different occasions one of which was from a limestone bluff above the 3600 m camp. Examination of a number of scats would indicate that this animal fed principally upon Mallomys and Stenomys which were found commonly at the higher altitudes. Fruit, berries, and insects seemed to make up the remainder of their diet. On two different occasions dogs were caught in steel traps but in each instance the animal managed to pull loose.

At the 2800 m and 2200 m camps no dogs were seen or heard. It is probable that they occasionally come into the mung

forest country although there was no evidence of it. The natives of the region did not have domestic dogs.

One individual, the only one seen in the Grand Valley, was purchased from the natives near the Balim River camps. This half-wild animal belonged to a native who told me that he had dug it out from the hill side when it was small. After much bargaining it was purchased for the sum of 30 cowrie shells the highest price paid for any article obtained from the natives. The beast was small about 900 mm high at the shoulders, 800 mm total length, and 350 mm tail length. These figures are estimations rather than actual measurements. The color was that of black and white in broad marks, the latter color predominating the anterior half. The tail was held in a slight upward curve, not looped. The ears were erect and pointed. The hair was moderately short and with a general shed shiny appearance.

It was a nervous cowering beast which fled at our approach only to be brought back by its abusive owner. Apparently it is highly prized by the natives although I do not know what value it has other than the fact that its fur may be used for ornamentation.

At the 2150 m camp above the Tsanchi River a dog was caught in a stake trap. Its whining howl was heard distinctly for more than ¼ mile away. Unfortunately the dog escaped while a Dyak collector was trying to pin it beneath a forked stick. According to this collector it was a ♂; brown and white in color; about 16 inches high; and about 24 inches long in body. This animal was caught in a trap set on a ridge top trail through a bamboo thicket in the mossy beech forest.

Although no dogs or their signs were seen about the 1800 m and

1200 m camps they probably occured uncommonly in this region.

At the 850 m camp a number of dogs were brought in by the natives 4 of which were purchased, a knife for the small ones, an axe for the larger ones. The natives with their dogs had travelled over 5 days to our camp from their village on the Segie River (10 km SW of Berlad Camp Oshabong River, 800 m). The animals were all much of the same color with large light brown markings against a dirty white background. While tied in camp these dogs howled almost continually and were answered by other Papuan dogs. During the evening too these native dogs which had accompanied their masters in a near by camp howled frequently. To my knowledge they never barked although they occasionally loosed a yapping howl. The dogs were very frightened when near strangers but

behaved like domestic dogs when in the presence of their owners. They responded to call coming to the Papuan when he voiced a throaty "ho". They are apparently well fed and cared for.

A single individual was taken near Bernhard Camp. Although caught in a snare which was set on the main first flow I believe that the animal was a village dog. This assertion is based on the fact that the hairs of the tail were partially burned and the whiskers were singed which would indicate that the animal had come too close to the camp fire of the native.

Canis

Mar. 10 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.

2 brought in by natives. According to Dr. Fulls who came in with the Natives from the Segie River (10 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 800 m.) there were 5 dogs accompanying them. They were all of much the same shape and size and color. The small one was purchased for 5 fills, the large one for a knife. Had a good opportunity to listen to the vocalization of these beasts. The two purchased animals howled a good deal of the time while they were tied in camp and answered by howls of the other Papuan dogs. During the evening too the native dogs frequently howled. To my knowledge they never barked.

Mar. 11. Dogs were heard in the vicinity of camp about 4:00 and in the evening about 7:00. Ford reported that he heard them barking but I did not hear anything but their howls. Note - The larger of the two dogs purchased yesterday was apparently adult but as yet the testis had not come down.

Mar. 12 2 brought in by natives. They were the same natives (with 1 exception) that brought in dogs on the 10th. These natives brought in 4 for sale 3 sub adults, and 1 old adult. Purchased 2, one subadult for a knife, an adult for an axe. The dogs although afraid of strangers and apparently willing to bite if not allowed to escape, on tape and sacks much like ordinary domesticated dogs about the natives. They responded to their calls which is a deep throaty "ho". They apparently are fairly well cared for for both were fat, and had food in their stomachs.

Apr. 19 Bernhard Camp Idenburg R. Netherlands New Guinea 75 m.

1 in 418 snares. Brought in by collectors. Taken on upper flood plain. I believe that this animal was a Papuan dog, that is one of the village dogs. This assumption is based on

the burnt hair of the tail and the singed vibrissie.

Canis familiaris. - ~~The~~ No dogs were taken from the vicinity of Lake Habbema or above, although dung and tracks of them were commonly seen up as high as 4000 m. on the ridges along the muddy footpaths. While camped there I did not hear them vocalize, but Mr. L.J. Brass reports having heard them howl on several different occasions, once from a limestone bluff above the 3600 m. camp. Examination of a number of would indicate that these animals fed principally upon Mallomys and Stenomys (2 sp.), which were found commonly at these higher altitudes. Fruit, berries, and insects seemed to make up the remainder of their diet. On two different occasions dogs were caught in steel traps, but in each instance the animal managed to pull loose.

At the 2800 m. and 2200 m. camps no dogs were seen or heard. It is probable that they occasionally come into the mossy forest country, although there was no evidence of it. The natives of the region did not have domestic dogs.

One individual, the only one seen in the Grand Valley, was purchased from the natives near the Balim River camp. This half wild animal belonged to a native who told us that he had dug it out from the hillside when it was small. After much bargaining it was pur-

chased for the sum of 3.0 cowrie shells, the highest price paid for any article obtained from the natives. The beast was small, about 300 mm. high at the shoulders, 800 mm. total length, and 350 mm. tail length. These figures are estimations rather than actual measurments. The color was that of black and white in broad marks, the latter color predominating on the anterior half. The tail was held in a slight upward curve, not looped. The ears were erect and pointed. The hair was moderately short and with a generally slick, shiny appearance.

It was a nervous, cowering beast which fled at our approach, only to be brought back biting and kicking, by its attentive owner. Apparently it is highly prized by the natives, although I do not know waht value it has other than the fact that its fur may be used for ornamentation.

At the 2150 m. camp above the Idemburg River a dog was caught in a steel trap. The whining howl was heard distinctly for more than ¼ of a mile away. Unfortunately the dog escaped while a Dyak collector was trying to pin it beneath a forked stick. According to this collector it was a ♀; brown and white in color; about 16 inches high, and about 24 inches long in body. This animal was caught in a trap

set on a ridge top trail through a bamboo thicket in the mossy beech forest.

Although no dogs or their signs were seen about the 1800 m. and 1200 m. camps, they probably occurred uncommonly in this region.

At the 850 m. camp a number of dogs were brought in by the natives, 4 of which were purchased, a knife for the small ones, an axe for the larger ones. These natives with their dogs had traveled some 5 days to our camp from their village on the River (10 km. S.W. of Bernhard Camp, Idenburg River, 800 m.). The animals were all much of the same color with long light brown markings against a dirty white background. While tied in camp these dogs howled almost continually, and were answered by other Papuan dogs. During the evening, too, these native dogs, which had accompanied their masters in a nearby camp. howled frequently. To my knowledge they never barked, although they occasionally loosed a yapping howl. These dogs were very frightened when near strangers but behaved like domestic dogs when in the presence of their owners. They responded to call, coming to the Papuan when he voiced a throaty "ho". They are apparently well fed and cared for.

A single individual was taken near Bernhard Camp. Although caught in a snare which was set on the rain forest floor, I believe that the

animal was a village dog. This assertion is based on the fact that the hair on the tail was partially burned and the vibrissae were singed, which would indicate that the animal had come too close to the camp fire of the native.

Dactylonax palpator — Two individuals were purchased from natives who brought them into the camp on 28.00 a camp. One of these was apparently shot by the natives in the immediate vicinity of camp for it was still warm and bleeding from the arrow wound when brought in. Things of interest about the beast are the heavy build of the body; the long protruding 4th finger with a small claw; the long limb, particularly the hind limbs with its opposable thumb; the abrupt ventral hook on the tip of the tail; the long retractable lower lip; the long tongue; and the sweet musky odor.

At the Bele River camp 6 individuals were brought in by natives. One of these was a ♀ with a long pouch simmilar to that of the Phalangers and with a young of this ♀. The young though rather large was still dependant upon the ♀ for its existence getting its nourishment from

the single functional mammary gland.
The measurements of this young are as follows.

Total length	210
Tail vert.	93
Hind foot SU	26
Ear from crown	12

One specimen from the 850 m camp was caught in a cage set by a log in the mossy forest.

Another specimen was taken by an collector 10 km SW Bernhard Camp at 1500 m. I have no record of the exact habitat except that the general character of the country was mossy forest.

This animal probably occurred at the 2100 m, 1800 m, and 1200 m camps although no specimens were obtained to substantiate this assumption. However there were occasional logs or rotting trees that were broken into by prying ~~a~~ ~~breaking~~ off chunks from the decaying wood which appeared to be the work of this animal.

A penis of an adult ♂ is

bifed dorsoventrally for about ¼ its length. See fig. no —

Dactylonax palpator. - Two individuals were purchased from natives who brought them into the 2800 m. camp. One of these was apparently shot by the natives in the immediate vicinity of the camp, for it was still warm and bleeding from the arrow wound when brought in. Things of interest about this beast are the long heavy body; the long protruding 4th finger with a small claw; the heavy limbs, particularly the hind limbs with the possible thumb; the abrupt ventral hook on the tip of the tail; the long retractable lower lip; the long tongue; and the sweet musky odor.

At the Bele River Camp 6 individuals were brought in by natives. One of these was a ♀ with a long pouch similar to that of the Phalangers and another a young of this female. This young, though rather large, was still dependant upon the ♀ for existence, getting its nourishment by the single functional mammary gland.

The measurements of this young were as follows:

Total length	210
Tail vert.	93
Hind foot	26
Ear from crown	12

One specimen from the 850 m. camp was caught in a snare set on top of a log in the mossy forest.

of a log in the mossy forest.

Another specimen was taken by a collector at 10 km. S.W. Bernhard Camp at 1500 m. I have no record of the exact habitat except that the general character of the country was mossy forest.

This animal probably occurred at the 2150 m., 1800 m. and 1200 m. camps, although no specimens were obtained to substantiate this assumption. However, there were occasional logs on rotting trees seen that were broken into by prying off chunks from the decaying wood which appeared to be the work of this animal.

A penis of an adult ♂ is bi dorsoventrally for about ¼ of its length. See fig. No. .

W. B. Richardson
1938
1939

Dactylonax

Oct 31 9 km NE Lake Habbema, Netherlands New Guinea 2800 m
1 brought in by native probably from below. Things of interest about the beast in the heavy build, the long protruding finger with small claw; the heavy limbs particularly the hind limbs; the abrupt vertical curve at the top of the tail; the long retractable lower lip; long tongue.

Nov. 5 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives. It was apparently taken in the immediate vicinity for it was still warm and bleeding from the arrow wound when I purchased it.

Nov 6 Bele River, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by native. It is the first female. I was surprised to find that the pouch was very poorly developed, not perfect, but much the same as Thylacinus.

Nov 12 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

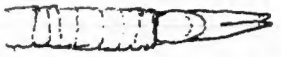
Nov 14 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
2 brought in by native, what appears to be a ♀ with its young. They were purchased from the same native at the same time. The ♀ had only 1 functional mammary gland and a large pouch.

Nov 23 Bele R. 18 km N Lake Habbema, Netherlands New Guinea. 2200 m.
1 brought in by native.

Dec 2 Bele R 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by native.

Apr. 3 4 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 987 snares. Brought in by collector. According to him it was taken in snare

set on top of fallen log. Penis is bifid dorso ventrally for about 1/4 ut long.



Dasymus albipenetatus – One individual was taken near Hobbins Lake camp. The trap was set in a trail which had probably been made by Sterrorys but used by Dasymus when prying upon them. The moss covered ground was broken by numerous mossy clumps which had formed about the bases of scattered bushy rhododendrons. Such clumps are to be found in the boarder area where there is a transition from the grasslands to the heavy mossy forest. In this transition area there are scattered Laboucedrus trees as well as clumps of rhododendrons and other shrubs.

Another specimen was taken at the 3600 m camp. It too was caught in a trap set in a Sterrorys runway at the edge of the sub alpine forest which boardered a grassy valley near a limestone cliff. Its pouch consisted of small lateral folds of the skin incompletely covering the 4 mammary glands with moderately

well developed, nonlactating tits.

Two immature animals were taken at the 2800 m camp. One was shot while running over the littered floor of the mossy beech forest. The other was caught in a trap set on a log which formed a bridge across a small stream in the mossy forest.

Seven individuals were taken at the Bele River camp. Five were brought in by natives and 2 were trapped. One of those trapped was taken in a runway over a mossy buttress of a large Sama tree. This region was that of large trees, thin undergrowth, and litter. The other animal trapped was taken in a runway at the edge of an old log in a very thick growth of brush and bracken. This area was an abandoned garden at the edge of the forest, which had reverted to a second growth forest.

One ♀ with 3 young were taken at the 1800 m camp. The habitat was the

mossy forest with scattered large trees, rather thick second story growth, scattered clumps of undergrowth, and much litter heavily draped with moss. It was in a trail over the mossy forest floor that the trap which caught the animal was set. The three young were each firmly attached to a nipple. The 4th ~~th~~ mammal was nonfunctional and much reduced in size. The squirming young remained alive and active for 4 to 4½ hours after the ♀ had been killed. One was pulled away from the teat by exerting a force of 4 or 5 lbs., the others were torn loose by snipping the mammae. The one which had been pulled free frequently uttered a hissing squeak similar to that uttered by young <u>Chaeropelus</u>. This squeak which could be heard by the human ear for a distance of several yards may have a survival value in that it would aid the ♀ in finding a dislodged young. The other young with

the teat still in the mouth were apparently unable to squeal. These young are probably more easily detached than many young marsupials for there is no well formed pouch as is found in the Phalangers, Dorcopsis, or Echymipera. This pouch, if it can be called such consists of a ~~or~~ lateral ~~and~~ anterior fold which forms an inverted U shaped flap about the anterior 3/4 of the pouch area. These folds anteriorly are 8 mm in depth and decrease posteriorly until they disappear at a point about 1/4 the distance from the posterior end of the pouch area. This inverted U shaped pouch with a larger anterior fold and no posterior one would indicate that this animal has a tendency toward a pouch with a posterior opening such as is found in Perameles and Echymipera.

Five individuals were taken at the 1200 m camp. Three of these are juveniles probably of the same litter.

The stomach of one contained the remains of large insect grubs another the remains of insects, and the third was empty. One of these a juvenile ♀ had very small mammae concealed in the peculiar hair of the anal pouch area. An adult ♀ was taken in a trap set in a small runway on a moss covered rocky hill slope with scattered undergrowth and litter in the rather open mossy forest. This ♀ had been partially eaten while in the trap apparently by another of its own kind and probably by one or more of the three above mentioned young which were later caught in the same trap. These young were probably her last litter. An adult ♂ was also taken. Habitat was the mossy forest with rather heavy moss covered litter. His stomach was empty. Its penis was bifid.

Five <u>Dasyurus</u> were caught at the 850 m camp. A ♀ with 3 attached young were taken in a trap set in a runway in heavy undergrowth

on the bank of a river which ran through the
mossy forest. The pouch of the ♀ was similar
in most respects to the ♀s previously described
from the 1800 m camp. The following are
a list of measurements of the pouch area
taken from the freshly killed ~~specimen~~ animal.
Size of pouch area 40 x 40 mm
Posterior lip of pouch area to vagina 20 mm
Posterior lip of pouch area to posterior mammae row 13 mm
Distance between anterior mammae 25 mm
Distance between posterior mammae 15 mm
Distance between anterior and posterior mammae 10 mm
Height of anterior wall of pouch 25 mm
Height of lateral walls of pouch 20 mm
No posterior wall to pouch.
Another adult ♀ was taken at this camp
which did not carry young. Comparable
measurements of the pouch area which were
made in the field are as follows.
Size of pouch area 15 x 15 mm
Posterior lip of pouch area to vagina 28 mm
Posterior lip of pouch area to posterior mammae row 5 mm

Distance between anterior mammae 10 mm
Distance between posterior mammae 4 mm
Distance between anterior and posterior mammae 7 mm
Height of anterior wall of pouch 0
Height of lateral wall of pouch 2 mm
This animal possessed the usual number of 3 pair of tits, small, non lactating, and concealed by ~~a~~ rather dense stiff hair of the pouch. It appears as though the pouch area had contracted thus massing the hair in that region. Her stomach contained insect remains.

A very large ♂ was snared at the 850 m camp. It was taken on a ridge top in an open mossy forest. His stomach contained the remains of what appeared to be a young <u>Calyptiperu</u>

Four young were taken at Bernhard Camp. They were all caught in the same vicinity and are probably of the same litter. Habitat was a small protected runway beneath a log on the open

forest floor of the lowland rain forest.

Another specimen was brought in by a collector from the Cyclops (Cyclops Mountains probably near Doajo, 150 m)

Dasyurus albopunctatus. - One individual was taken near Habbema Lake Camp. The trap was set in a trail which had probably been made by Stenomys but used by Dasyurus when preying upon them. The moss covered ground was broken by numerous mossy clumps which had formed about the bases of scattered bushy rhododendrons. Such clumps are to be found in the broader areas where there is a transition from the grasslands to the heavy mossy forest. In this transition area there are scattered Libocedrus trees as well as clumps of rhododendrons and other shrubs.

Another specimen was takne at the 3600 m. camp. It, too, was caught in a trap set in a Stenomys runway at the edge of the sub-alpine forest which bordered a grassy valley near a limestone cliff. Her pouch consisted of small lateral folds of the skin incompletely covering the 4 mammary glands with moderately well developed, non-lactating tits.

Two immature animals were taken at the 2800 m. camp. One was shot while running over the littered floor of the mossy beech forest. The other was caught in a trap set on a log which formed a bridge across a small stream in the mossy forest.

Secen individuals were taken at the Bele River Camp. Five were

brought in by natives and two were trapped. One of those trapped was t taken in a runway over a mossy buttress of a large Sama tree. This region was that of large trees, thin undergrowth, and litter. The other animal trapped was taken in a runway at the edge of an old log in a very thick growth of brush and bracken. This area was an abandoned garden at the edge of the forest, which had reverted to a second growth forest.

One ♀ with 3 young was taken at the 1800 m. camp. The habitat was the mossy forest with scattered large trees, rather thick second story growth, scattered clumps of undergrowth, and much litter heavily draped with moss. It was in a trail over the mossy forest floor that the trap which caught this animal was set. The three young were each firmly attached to a mammae. The fourth mammae was nonfunctional and much reduced in size. These squirming young remained alive and active for 4 to 4½ hours after the ♀ had been killed. One was pulled away from the tit by exerting a force of 4 to 5 lbs., the others were cut loose by snipping the mammae. The one which had been pulled loose frequently uttered a hissing squeak similar to that uttered by young Phascogeles. This squeak, which could be heard by the human ear for a distance of several yards, may have a

survival value in that it would aid the ♀ in finding a dislodged young. The other young with the tit plug still in the mouth were apparently unable to squeak. These young are probably more easily detached than many young marsupials, for there is no well formed pouch, as is found in the Phalangus, Dorcopsis, or Echymipera. This pouch, if it can be called such, consists of a lateral anterior fold which forms an inverted U shaped flap about the anterior ¾ of the pouch area. These folds anteriorly are 8 mm. in depth and decrease posteriorily until they disappear at a point about ¼ the distance from the posterior end of the pouch area. This inverted U shaped pouch with a larger anterior fold and no posterior one would indicate that this animal has a tendency toward a pouch with a posterior opening such as is found in Peroryctis and Echymipera.

Five individuals were taken at the 1200 m. camp. Three of these were juveniles, probably of the same litter. The stomach of one contained the remains of large insect grubs, another the remains of insects, and the third was empty. Lne of these, a juvenile ♀, had very small mammae concealed in the peculiar hair of the small pouch area. An asult ♀ was taken in a trap set in a small runway on a moss covered rocky hill slope with scattered undergrowth and litter in the rather open mossy forest. This ♀ had been partially eaten while in the trap, apparently by another

of its own kind and probably by one or more of the above mentioned young which were later caught in the same trap. These young were probably the same litter. An adult ♂ was also taken. Habitat was the mossy forest with rather heavy moss covered litter. His stomach was empty. Its penis was bi

Five Dasyurus were caught at the 850 m. camp. A ♀ with 3 attached young was taken in a trap in a runway in heavy undergrowth.on the bank of a river which ran through the mossy forest. The pouch of the ♀ was similar in most respects to that of the ♀ previously described from tje 1800 m. camp. The following is a list of measurements of the pouch area taken from the freshly killed animal:

Size pouch area 40 X 40 mm.

Posterior lip of pouch area to vagina 20 mm.

Posterior lip of pouch area to posterior mammae row 13 mm.

Distance between anterior mammae 25 mm.

Distance between posterior mammae 15 mm.

Distance between anterior and posterior mammae 10 mm.

Height of anterior wall of pouch 25 mm.

Height of lateral walls of pouch 20 mm.

No posterior wall to pouch.

Another adult ♀ was taken at this camp which did not carry young. Comparable measurements of the pouch area which were made in the field are as follows:

Size of pouch area 15 x 15 mm.

Posterior lip of pouch area to vagina 28 mm.

Posterior lip of pouch area to posterior mammae row 5 mm.

Distance between anterior mammae 10 mm.

Distance between posterior mammae 4 mm.

Distance between anterior and posterior mammae 7 mm.

Height of anterior wall of pouch 0

Height of lateral walls of pouch 2 mm.

This animal possessed the unusual numner of 3 pair of tits, small, none lactating, and concealed by rather dense stiff hair of the pouch. It appears as though the pouch area had contracted, thus massing yhe hair in that region. Her stomach contained insect remains.

A very large ♂ was snared at the 850 m. camp. It was taken on a ridge top in an open mossy forest/ His stomach contained the remains of what appeared to be a young Echymipera.

Four young were taken at Bernhard Camp. They were all caught in the same vicinity and were probably of the same litter. Habitat was

a small protected runway beneath a log on the open forest floor of the lowland rain forest.

Another specimen was brought in by a collector from the Cyclops (Cyclops Mountains probably near Dojo, 150 m.).

Wm. B. Richardson
1938

Dasyurus

Aug 17 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 375 traps. This individual was taken in a trap set about 1 kilometer north of camp on the east slope of the ridge at the head of the grassy valley. The trap was set in a trail between the moss clumps which are clumped about the bases of low rhododendron shrubs in that region. Here there were scattered Libocedrus and some 10 ft away was a heavy forest thicket with a mossy undergrowth. The most characteristic thing about the immediate vicinity was the open low small bushy patches with moss clumps about the base and a mossy sinter ground cover.

Sept 17 2 km NE Wilhelmina top Netherlands New Guinea 3560 m. ~~3225 m.~~
1 in 151 net traps. Brought in by collector who said it was taken in trap set in small runway through grass at the outer edge of the out-lying forest. The 4 tits were all equally well developed (small). The pouch is nothing more than two lateral folds of skin incompletely covering the mammary glands.
Sept 18 - I saw the trap in which the above animal was taken. It was set in a small runway along the outer edge of the out-lying forest near the base of the limestone cliff at the south end of the valley.

Oct 29 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
2: 1 shot by collector other in 29 steel traps. The one shot was taken yesterday afternoon by Dyck who said that it was running over the forest floor. It was taken at the south end on the hill slope. The one trapped was brought in by collectors who said trap was set on type of log over stream. Neither of the two showed signs of having young (immature animals)

Nov 14 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 juv. brought in by natives

Nov 18 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 ad. brought in by natives

Nov 20 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 ad. in 206 rat traps. The traps were set at the base of a large sawn tree in a runway over the moss hummocks. The region was that of large trees, thin undergrowth, and litter.

Nov 25 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 juv. in 206 rat traps. Taken in trap set in a runway at the edge of an old log, along a very thick growth of brush and bracken. The area is that of a abandoned garden clearing, bordering the forest, which should be considered second growth covering the forest.

Nov 27 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 ad. brought in by natives. (Skin being made up)

Nov 29 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 juv. brought in by natives

Dec 3 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives. (Skin being made up

Jan. 19 15 km SW Bivouac Camp, Idenburg R., Netherlands New Guinea 1810 m.
1 ad. in 28 steel traps. Brought in by collectors. Said to have been taken in runway over forest floor. Mossy forest conditions with scattered large trees, rather thick second story growth and scattered clumps of undergrowth. Litter is common. There were 4 tits to 3 of which a young each was attached. The 4th tit was non-functional and much reduced in size. The young remained alive and firmly attached to the tits 4 or 4½ hours after animal ~~was~~ ♀ had been killed. One was pulled away from the tit by exerting

Dasyurus

a force of 4 or 5 lbs. The other two were cut loose by simply cutting the tit. The one which was pulled free frequently uttered a hissing squeal, similar to feed young Phascogales. The other 2 remained silent. The plug which remained in the mouth of the 2 probably prevented them uttering squeals although they were in apparently the same state of misery. The fact that the feed young from the tit utters a sound may be of survival value to the young. Certainly the noise uttered even to human ear could be heard several yards distance. I am wondering if the young are not unceremoniously detached from the tit for the pouch of the mother is of little or no value as far as the protection of the young are concerned. It consists of a fold of skin some 8 mm. in depth arising ~~at the lateral folds~~ extending laterally posteriorly tapering to a distance of about ¾ the pouch area. This would indicate that the pouch has a tendency towards a posterior opening but the folds of skin is the only indication of ~~sexual~~, ~~rather than~~ a true pouch. [See Apr 1st notes]

Feb. 15 6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.

1 Jav. in 224 rat traps. This individual taken in trap set ~~also~~ in small runway at the edge of a stone. Habitat the mossy rocky hill slope with scattered undergrowth & litter. The individual had been eaten which in the trap apparently by another of its own kind. There are no other animals here except dog with the ability to bite through the skull. The fleshy parts were eaten but the entrails, liver, stomach ect ~~were~~ remained.

Feb 18 1 Jav. in 223 rat traps. Brought in by collectors. This juvenile had in stomach remains of large grub, that is insect larva.

Feb 20 1 Jav. in 220 rat traps. Brought in by collectors. The pouch area and tits of this young ♀ slightly differentiated and very small. Stomach contained insects remains.

Feb. 23 6 Km. SW Bernhard Camp Idenburg River Netherlands New Guinea 1200 m.
1 in 221 traps. Brought in by collectors.
Feb. 28 1 in 12 steel traps. " " " "
Stomach empty. Penis is bifid ~~and~~ as was one of the species of Phenacomys. It was slightly larger but proportions the same. ?

Apr. 1 4 Km SW Bernhard Camp Idenburg River Netherlands New Guinea 850 m.
4 (3 Juv.) in 207 rat traps. Brought in by collectors.
Taken in trap set in small runway in the undergrowth of the river bank at the lower edge of the flood plain. The pouch contained 3 juveniles (see details). This pouch shows definitely that the pouch opening tends to be directed posterior rather than anterior ~~as I had previously thought~~.
The pouch opening is the same size as the pouch and ~~but~~ with anterior walls ~~being~~ forming a protective flap.
Posterior lip of pouch and to vagina 20 mm.
Posterior lip of pouch and to posterior tit row 13 mm.
Pouch area 40 × 40 mm.
Opening of pouch 40 mm diameter.

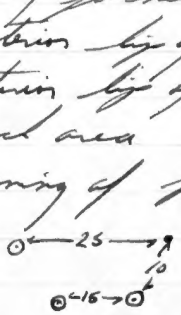
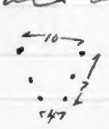


Diagram of tits ○ marks functional ones.

No posterior walls of pouch.
Lateral walls 20 mm.
Anterior wall 25 mm. When ~~tits~~ laid down it reaches the posterior row of tits.
No food in stomach.

Apr. 5 1 in 0.33 snares. Brought in by collector.
Posterior edge of ~~post~~ pouch and to vagina 28 mm.
Posterior edge of pouch and to posterior tit 5
Pouch area 15 × 15 mm.



There are 3 pairs of tits, small, non lactating, covered by the dense, rather stiff hair of the pouch area. The pouch area has very small lateral walls, not over 2 mm in height and no anterior or posterior wall. Hence concentration of hair on

Dasyurus

the penal area as if the area had contracted and thus concealing the hair. Stomach contained remains of insects. Ovaries enlarged.

Apr. 7 4 km. SW Bernhard Camp, Idenburg R. Netherlands New Guinea 850 m.
1 ♂ in 1075 snares. Brought in by collectors. Stomach contained remains of what appeared to be a young Echymipera. ♂ very large

Apr. 16 Bernhard Camp, Idenburg R. Netherlands New Guinea 75 m.
1 young in 259 rat traps. Taken in a small protected runway beneath a small log in open forest of lower mountain slopes above flood plane.

Apr. 17 3 young in 259 rat traps. Taken in same vicinity as the individual taken yesterday. Believe that they are of the same litter. No penal development of females. Pouch area distinguishable due to difference in hair.

1 specimen taken from Cyclops Mts by Chalmers

<u>Dendrolagus finschi</u> — A number of individuals were purchased the natives of Hollandia. According to them these animals were found not uncommonly in large of the heavy rain forest. Several were brought in alive and retained in large cages from June 1938 to May 1939. At the time 5 of them were crated and then transported with me to Java where one was deposited in the Soerabaya Zoological Gardens, one to Chabatan where one was given to Tamanga Park, and the other three were brought to the National Zoological Gardens in Washington, D.C. It was from these captive animals that the following observations were made.

Locomotion — Although the hind limbs are smaller and the front limbs larger than that of a kangaroo locomotion over the ground was of the same type. Hopping about on the hind feet with the front feet held against their chest only occasionally putting them down when moving very slowly

or to terminate a series of rapid hoppes. While in motion the tail is held off the ground and seems to serve as an organ of balance. In climbing up a pole these animals use a hopping gait. The hind feet are turned outward so that the inner fleshy part of the long rough sole pad bears the weight of the animal rather than the claws of the hind feet. The front feet in climbing a pole, or post in diameter or less, are used opposing each in a clasping fashion. In scaling trees too large for clasping the long claws are held widely in a hook-like position in relation to the foot are thus catching onto irregularities in the bark. The digits are not opposable in either the front feet or hind feet as they are with Phalangers. Progressing along a horizontal cage pole of (2"-3") diameter was accomplished with a rolling hop utilizing all four feet. When the end of such a pole was reached rather than turn about it would walk

backwards along the stick with a shuffling motion. Although they were able to maintain their balance while turning about they seemed to prefer this backward shuffle to turning on a small pole. In descending a pole they do so with sliding hops of the hind feet while the front feet clasp as they lower themselves hand over hand.

Food:— Their cage food which they have been fed at different times is as follows: Bananas with a preference for their skin; sweet potatoes with also a preference for the skin; sweet potato greens; papaya are eaten occasionally; apples; young coconut meat and inner husk; leaves of several wild herbacious plants and grasses; ~~and~~ cultivated vegetables such as carrots, lettuce, turnips, spinach etc.; and developed quite a passion for bread butter and jam. They seemed to be pure vegetarians although meat of various sorts was given them on different occasions it received no eaten. Eating was accomplished

by holding the food between the front paws, much as the Phalanger does; shoveling the lower incisors into the food, and then biting off a piece by bringing the upper incisors down against the lower ones. When eating grass often a single stalk will be left hanging out of the corner of their mouth as mastication slowly guides it up.

Voice – was heard only when injured during their rough play with each other. The sound was a low airy squeak repeated frequently. When being raised off of the ground they would sometimes utter a "hiss" which was little more than air passing through the mouth.

<u>Activities</u> – The animals which were housed together, sometimes as many as three or four in a single cage, would play, eat, and sleep together without apparent antagonism. Their periods of greatest activity were during the morning and again in the evening. They were never found sleeping

during the mid day as well as during the darker part of the night. Most of their time was spent on elevus near the tops of the cag. coming down only to eat or drink.

Dendrolagus firschi. - A number of individuals were purchased from the natives of Hollandia. According to them these animals were found not uncommonly in large of the heavy rain forest. Several were brought in alive and retained in large cages from June, 1938, to May, 1939. At the time 5 of them were crated and thus traveled with me to Java, where one was deposited in the Soerabaga Zoological Gardens, on to Australia, where one was given to Tanonga Park, and the other three were brought to the National Zoological Gardens in Washington, D.C. It was from these captive animals that the following observations were made.

Locomotion. - Although the hind limbs are smaller and the front limbs are larger than those of a kangaroo, locomotion over the ground was of the same type. Hopping about on the hind feet with the front feet held against their chest, only occasionally putting them down when moving very slowly, or to terminate a series of rapid hops. While in motion the tail is held off the ground and seems to serve as an organ of balance. In climbing up a pole these animals use a hopping gait. The hind feet are toed outward so that the inner fleshy

part of the large rough sole pad bears the weight of the animal rather than the claws of the hind feet. The front feet in climbing a pole a foot in diameter or less are used opposing each other in a clasping fashion. In scaling trees too large for clasping, the large claws are held rigidly in a hook-like position in relation to the foot, thus catching into irregularities in the bark. The digits are not opposable in either the front feet or hind feet as they are with Phalangers. Progressing along a horizontal cage pole of 2"-3" diameter was accomplished with a crawling hop, utilizing all four feet.When the end of such a pole was reached, rather than turn about, it would walk backward along the stick with a shuffling motion. Although they were able to maintain their balance while turning about, they seemed to prefer this backward shuffle to turning on a small pole. On descending a pole they do so with sliding hops of the hind feet, while the front feet clasp as they lower themselves hand over hand.

Food. - Their cage food which they have been fed at different times is as follows: bananas, with a preference for their skin; sweet potatoes, also with a preference for their skin; sweet potato

greens; papaga are eaten occasionally; apples; young coconut meat and inner husk; leaves of several wild herbaceous plants and grasses; cultivated vegetables, such as carrots, lettuce, turnips, spinach, etc., and developed quite a passion for bread, butter and jam. They seemed to be pure vegetarians; although meat of various sorts was given them on different occasions, it remained uneaten. Eating was accomplished by holding the food between the front paws, much as the _Phalanger_ does; shoving the lower incisors into the food, and then biting off a piece by bringing down the upper incisors against the lower ones. When eating grass often a single stalk will be left hanging out of the corner of their mouth as mastication slowly grinds it up.

Voice. - This was heard only when injured during their rough play with each other. The sound was a low airy squeak, repeated frequently. When being raised off the ground they would sometimes utter a "hee" which was little more than air passing through the mouth.

Activities. - The animals which were housed together, sometimes as many as 3 or 4 in a single cage, would play, eat and sleep together without apparent antagonism. Their periods of greatest

activity were during the morning and again in the evening. They were usually found sleeping during the midday, as well as during the darker part of the night. Most of their time was spent on shelves near the top of the cage, coming down only to eat or drink.

Wm. B. Richardson
1938

Dendrolagus

June 24 Hollandia, Netherlands New Guinea.

Purchased the tail of one of these beasts from a native from Ingros. According to his story it was caught on the main land, in the large jungle (Rain forest) south of his campong Ingros.

June 30 Hollandia, Netherlands New Guinea.

Purchased another tail from a native from Ingros. The animal was probably taken in or near the same forest as the animal above (June 24).

July 3 Hollandia, Netherlands New Guinea.

Purchased half grown young, one ♂ and one ♀, from Mr. Keeser a planter living now 15 kilometers south of Hollandia (lives on the southern side of the inner bay). These two animals will be kept alive for study.

July 18 Hollandia, Netherlands New Guinea.

The following is the life history notes accumulated during the past 15 days on the two tame Dendrolagus which were purchased from Mr. Keeser.

Coloration and markings. There is no difference in the coloration of the ~~juvenile~~ sub-adult ♂ and ♀ with the exception of the overcast of brownish red which is more apparent on the ♂. The general color is a dark grizzled gray which is almost black about the head on the back and face and shades to a light gray on the dorsal surface. The face is black including the muzzle, the entire front of the lower jaw, about the ~~xxx~~ eyes and extending backward to the mid point between the eyes and ears where the dark meets a lighter gray stripe. There is a few gray hairs in front of the eyes and upper muzzle. The ears are black inside and out. Between the ears and running forward to the lighter gray band above the mask is a dark grizzled gray (continuation of shoulder color) with a reddish brown overcast. The cheeks and the lower jaw are

a light gray, to an almost white spot on the upper throat region; the lower throat having the grizzled light gray similar to the forearm. The neck, shoulders, fore limbs, are a dark grizzled gray with a darker shade above (dorsally) and darker the fingers. The dorsal surface back from a point behind the shoulder blades to the base of the tail is a dark brownish black shading off on the sides to a dark grizzled gray. This color has a definite brownish overcast which is more intense above the base of the tail and slightly intensified dorsally. The hind limbs are much like the front in color with a dark grizzled gray terminating in dark almost black digits. The belly about the pencil (tips of digits) is almost white shading around into a light gray. The ♂ has a solid gray belly. In both sexes the color becomes darker the further it is away from the mid dorsal line. Between the hind legs it tends to be lighter gray corresponding to that of the mid belly. The tail is a dappled gray with rather broad intensified spots of darker gray. There is an apparent tendency to band. Its general color is a light gray which is lighter ventrally as well as terminally, the tip being almost white. There is a general over shade of a brownish red which is more apparent toward the base of the tail than terminally.

Locomotion - As near as I can determine its locomotion while on the ground is similar to that of a kangaroo. It hops about on its hind feet without placing its front feet to the ground. The front feet are used in terrestrial locomotion only when a very slow hop is made or to terminate a series of rapid hops. In climbing up a pole they use a similar hopping gait with the hind feet but extended so as to grasp with the inner fleshy part of the very sole and rather than with the claws. The front feet are used for clasping by grasping with the two feet opposable or by hugging to the rough surface with their claws. These claws may be turned back so -

The Light

Dendrolagus

digits are not opposable in front or hind feet so they are with Phalanger. When progressing along horizontal limbs of small (3 or 2 in) in diameter it does so with the ~~all fours~~ hopping gait. When at the end of such a small limb in its cage it will shuffle backwards with sort of a walking gait on its heels. When descending or coming down a post it does so with sort of a reverse sliding hop ~~and all the while~~ hopping with the front feet. The front feet are lowered hand under hand in reverse to the upward climbing hop when the front feet are brought up hand over hand.

Range – All I can say about that is that these animals are said by the natives to be found in the heavy rain forest

Food – Their cage food which they have eaten is as follows: Bananas with a preference for thin skin, sweet potatoes preferred to skin, sweet potato greens, papaya eaten accidentally, apples, young coconut meat and inner husk, leaves of several types of herbaceous plants and grasses. They seem to desire a mixed diet of fruit and greens. The food is eaten by taking it off of the ground, holding it between the front paws and as the Phalanger does and taking bites by shoving in the lower incisors and biting off the portion with the upper incisors. When eating grass often a single stalk (4"-8") will be half hanging out from corner of the mouth while mastication slowly grinds it up. It reminds me of a rabbit.

Gregariousness – The two animals are always together even within their large cage. They play, eat, sleep together one mimicking the other with the ♀, the larger of the two, usually taking the lead in activities.

Activities – These animals are what I would consider, broadly, crepuscular sleeping during the midday and the entire darkness of night. I think their activities are more of daylight rather than darkness.

Voice – When being picked up off of the ground they will sometimes utter a "Hee" which is little more than an expiring through the mouth. When hunt during

play they utter a low-pitched squeak repeated frequently.

Miscellaneous notes. — When running they hold their tail off of the ground and directly behind. The front feet are used (lowered to ground) in running only to keep balance. At this present age there is a great deal of play activity consisting of grasping and nipping each other as well as running around.

Dobsonia (large sp.) — Thirty seven specimens of this species were obtained from the vicinity of Hollandia. 8 were brought in by a collector from 4 km W Tobati and the other 29 were taken from "Tanjung Sko" 11 km SE of Hollandia at the eastern edge of Humboldt Bay. Here large limestone cliffs had been eaten into by the action of the sea forming grottos at the water's edge. It was the larger of these caves that we examined. Only a few bats were seen as we first entered, these flying from one dark crack to another. After the first shot was fired they flew out in large numbers from the two large dark fissures in the high (100 - 150 ft) ceiling, filling the air with harsh squeaks and dung. They came to rest congregated in groups on the ceiling. There were between 750 and 1000 individuals of this species in this cave, both sexes and all ages. The world indicate that there

was so well defined breeding season. This was not only apparent on examination of individuals but also by the embryos of different stages of development found in the ♀s. Only one embryo per female. There were two other species of bats Miniopterus, and Myotis which inhabited the same cave.

Five individuals were taken from Bernhard Camp. Two of these were brought in by collectors from the rain forest. Two others were while hanging up ~~together~~ beneath the same long ~~leaf~~ leaf a fan palm about 4 m above the rain forest floor. The other was taken under a similar fan palm leaf about 3 m above the ground. Of interest is the fact that in all instances the ♀s were found hanging up solitarily while as the ♂s hang up in pairs. This same condition was found with the smaller species of the same genus.

Dobsonia (small sp.) — Six of this species were taken at the Bernstein Corp. Their daytime daytime haunts were much the same as that of the larger species clinging to the lower side of the large leaf fan palm. One was found hanging by the leaf 8 ft above the forest floor; no other records of this sort were given. One individual taken by a collector was seen flying some 15 ft above the forest floor and occasionally lighting on the leaves and small branches of one of the trees of the substage. My collecting boy said it was eating the leaves of one of these trees (Eretum) the leaves of which they themselves cooked. The flight was moderately fast, steady, and even without breaks as is found in insectivorous bats. It would sometimes hover over the tree for 20 seconds or more before alighting. As with the larger species the ♂♂ of this species were found hanging in pairs with the ♀♀ hanging up solitarily.

A single specimen was brought in from the Cyclops (Cyclops Mountains) by a collector.

Dobsonia (large sp.). - Thirty-seven specimens of this species were obtained from the vicinity of Hollandia. Eight were brought in by a collector from 4 km. west of Tabati and the other 29 were taken from "Tanjun Shi", 11 km. S.E. of Hollandia at the eastern edge of Humboldt Bay. Here large limestone cliffs had been eaten into by the action of the sea, forming grottoes at the water's edge. It was the larger of these caves that we examined. Only a few bats were seen as we first entered, these flying from one dark crack to another. After the first shot was fired, they flew out in large numbers from the two large dark fissures in the high (100-150 feet) ceiling, filling the air with harsh squeaks and dung. They came to rest congregated in groups on the c eiling. There were in this cave between 750 and 1000 individuals of this species, both sexes and all ages. This would indicate that there was no well defined breeding season. This was not only apparent on examination of individuals but also by the embryos of different stages of development found in the ♀'s. Only one embryo per female. There were two other species of bats Miniopterus and Myotis which inhabited the same cave.

Five individuals were taken from Bernhard Camp. Two of them were brought in by collectors from the rain forest. Two others were taken while

hanging up beneath the same large leaf of fan palm about 4 m. above the rain forest floor. The other was taken under a simalar palm leaf about 3 m. above the ground. Of interest is the fact that in all instances the ♀'s were found hanging up solitarily whereas the ♂'s hung up in pairs. This same condition was found with the smaller species of the same genus.

Dobsonia (small sp.). - Six of this species were taken at Bernhard Camp. Their daytime haunts were much the same as those of the larger species, clinging to the lower side of the larger ed fan palm. One was found hanging from the leaf 8 feet above the forest floor; ~~XXXXXXX~~ no other record of this sort were given. One individual taken by a collector was seen flying some 15 feet above the forest floor and occasionally lighting on the leaves and small branches of one of the trees of the substage. My collecting boy said it was eating the leaves of one of these trees (Eretum), the leaves of which they themselves cooked. The flight was moderately fast, steady, and even without breaks as is found in insectiverous bats. It would sometimes hover over the tree for 20 seconds or more before alighting. As with the larger species, the ♂'s of this species were found hanging in pairs, while the ♀'s hung up solitarily.

A single specimen was bought in from the Cyclops (Cyclops Mountains), by a collector.

Wm. B. Richardson
1938

Dobsonia

July 5 11 km. SE Hollandia, Netherlands New Guinea
July 5, 1938 — Shot 29 of this genus this afternoon. They were taken in a sea cave. Here a limestone cliff borders the ocean which by the action of the waves has been eaten away forming large holes or caves at the surf edge. We went into the large of these caves and from which the bats were taken. Only a few were seen at first (50-100) flying from one dark hole or crack to another. After the first shot they flew out in large numbers from two large dark cracks in the high ceiling (100 - 150 ft) and congregated in groups on the ceiling. They were easily disturbed filling the air with hard shrieks and dung. I can't think of anything shorter than a disturbed bat in a cave in the big numbers and close quarters that these were here. It was a stinking filthy mess. As already mentioned there were large numbers of bats in the cave. I would estimate that there was somewhere between 750 - 1000 individuals. [According to Rawson and Steve a number flew out of the cave and alit in the bushy jungle along the coast above the cliffs.] There were both sexes and all ages. Apparently there is no breeding season. This was not only apparent by individuals but also by the embryos of differing stages of development. Those females ♀♀ having embryos had only one. There were two other species of bats in the same cave Miniopterous, and Myotis

July 9 Hollandia, Netherlands New Guinea.
Six (6) individuals were brought in by a Papuan today. According to him they were taken from a cave near Mr. Birkmann's house. His house being located 2 km. inland (west) from Pim.

July 8 4 km. W Tabati, Netherlands New Guinea.
Two of this genus were brought in today from the same man and probably from the same place. These bats, however,

appeared to be shot, probably while feeding on the kapok fruit or flower. They were 4 Flowpeas brought in with the Dobsonia.

Apr. 12 Bernhard Camp, Idenburg R. Netherlands New Guinea 80 m.

2 ♀♀ shot yesterday, 1 by Red. 2 small ♂♂ was flying some 15 ft above the forest floor and occasionally lighting on the leaves and small branches of one of the second stage trees. My collecting boys said it was eating the leaves of this tree for they themselves use these leaves for their "sirih". The flight was moderately fast, but steady and even with no breaks. It would sometimes flutter a rather lower over the tree for 20 seconds or more. The larger species was shot by Rand and sent over to our camp for preparation.

Apr. 17 2 ♂♂ small shot ~~yesterday~~ this afternoon by my collecting boy. According to him they were hanging on the under side of a large large leaf in the forest.

Apr. 19 ♀ 1 small shot by Rand.

Apr. 25 4 shot by collecting boys. #7915 ♀ hanging up solitary under a fan palm leaf some 3 meters above the ground in the forest at the upper edge of the flood plain. The other two #7906 & #7907 large ♂♂ taken on lower flood plain. Hanging beneath leaf of fan palm 4 m. above ground. These two were hanging together under same leaf. ♀ lenbxbs #7919 small was shot by collecting boy from under palm leaf in forest.

Apr. 28 1 ♀ small shot. Found hanging under leaf of fan palm some 8 ft above ground.

May 4 1 ♀ large shot by Rand's collecting boy.

Dorcopsis

June 24 Hollandia, Netherlands New Guinea.

A male of this species was brought in this afternoon by a Papuan. According to his story he caught it in "Utang Yar" a jungle near Hollandia. I could judge from his pointing and mumbles that it was taken about 1 mile south of Hollandia. During my stay here I have heard 1 of these beasts as it ran through the forest. It was in a thick second growth forest near the top of a small hill ½ mi. south west of Hollandia. Purchased for 3.00 guilders.

June 25 Hollandia, Netherlands New Guinea

Another wallaby was brought in this ~~morn~~ afternoon by the same Papuan who brought in yesterdays. I assume therefore that it was taken in the same jungle as yesterdays for as a rule one man is restricted more or less to the bounds of a certain jungle. He had prepared the skin in such a poor fashion that I paid him only 2.00 guilders for the skin plus the skull.

June 26 Hollandia, Netherlands New Guinea

Purchased (3.00 guilders) another wallaby today from the natives. His company is "Ya pas a" and according to them the beast was caught in utang (forest) "Yaw" north west of Hollandia (2 mi?)

June 27 Hollandia, Netherlands New Guinea

Wallabies were brought in by a single individual. They were purchased, 2.00 guilders for the smaller one, 2.50 for the larger. Numbers # 4084 and #4085 were taken in Utang (forest) "Yasok" which according to the natives is 1 kilometer south of Hollandia. The other #4086 was taken in Utang "Momine" two kilometers south of Hollandia. I do not know when #4088 was taken. The other females with the possible exception of #4086 had been suckling young, evidence of which was # an

enlarged mammary gland (one) in this pouch.
Cut out this genital system and no embryos were found. One of them is preserved for further examination. According to the natives who brought them in this young had escaped, during the capture of the adults. I do not know for sure how they take the animals but from the condition of the animals it appears that they are caught in a snare or dead fall. [incorrect, see below]

June 28 Hollandia, Netherlands New Guinea.
Yesterday evening the 3 Dyak collectors and I went hunting with flash light. One hundred and 25 yd south (along trail) of Van Soilers I caught the eyes of two Dorcopsis. They were standing along the side of the trail conscious of our presence but apparently not nervous. I shot an adult female and her young (#4089 and #4090) the other escaped along a small trail through the rain forest. The general country in which these animals were taken was a heavy rain forest, one of the heaviest in this region. There are known numerous small trails about which might serve as avenues of escape for this animal, then to the heavy crown of the jungle trees to blanket out the undergrowth making the country suitable to the terrestrial habits of this animal. The eye shine was a vivid yellow with a bit of orange.
This afternoon the wallabie hunter (Papuan) came in with another animal #4094. It was caught according to him in Eltang "Pate" 1 kilometer south east of Hollandia. I inquired into his methods of catching them and he said with dogs. It is apparently a successful way to get them.

June 30 Hollandia, Netherlands New Guinea.
This afternoon I purchased (3.00) an adult ♂. According

20mm B. Richardson
1938

Dorcopsis

to the boy who brought it. It in it was taken in utang "Kato bar ro" 10 kilometers south of Hollandia. It was apparently taken somewhere south of Mr. Birkhoven's plantation. #4104

July 2 Hollandia, Netherlands New Guinea.
Two males one adult and one sub-adult were brought in yesterday evening by Papuans from Tobati. According to them they were caught in utang "Sequant" between 5-7 kilometers south of Hollandia.

July 5 Hollandia, Netherlands New Guinea.
A local Papuan brought in 4 of this genus today. According to him they were caught in utang "Momine". He had apparently used dogs in the capture. One individual although marked is being kept alive for study. [Died July 6 #4176]

July 6 Hollandia, Netherlands New Guinea
Three individuals were brought in this evening by local Papuans. They said the these were taken in the jungle 1 km. west of Hollandia.

July 7 Hollandia, Netherlands New Guinea
Another individual was brought in late yesterday evening by a local Papuan. He did not say but apparently it was taken in the near by jungle.

July 9 Hollandia, Netherlands New Guinea
Four of this species were brought in today by local Papuans. They were supposedly taken near Hollandia

July 13 Hollandia, Netherlands New Guinea.
Two specimens brought in by Papuan who said they took them in the jungle at "Koto bar ro" near Mr. Keisers.

July 15 Hollandia, Netherlands New Guinea.
The three specimens prepared today were brought in by natives. I do not know the exact locality but probably they were from the immediate vicinity of Hollandia.

July 16 Hollandia, Netherlands New Guinea.
Six more animals were brought in by local Papuans. Two of them #406 and #407 were said to have been taken in utang Hollandia, 2 km SW of Hollandia.

July 17 Hollandia, Netherlands New Guinea.
One animal brought in yesterday by a Papuan who said he shot it in utang Hollandia.

Oct 26 2 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 17 stub traps. Individual caught in a trap set on a log (3 ft in diameter) crossing above the stream. There was no well defined trail worn in the moss and herbaceous plants growing on the log but there were evidences of it having been occasionally used, serving as a natural bridge.

Nov 13 Bele R. 18 km N Lake Habbema, Netherlands New Guinea. 2200 m.
1 brought in by natives.

Nov 15 Bele R., 18 km N Lake Habbema Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 24 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives.

Nov 28 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives. A ♀ with its young.

Nov 29 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Wm. D. Richardson
1934

Dorcopsis

Jan 14 15 km SW Bernhard Camp, Idenburg R., Netherlands New Guinea 1800 m.

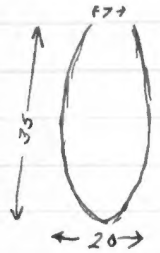
1 in 28 steel traps. Taken in large runway beneath a suspended log. The log was over 2 feet above the ground at the point where the beast was taken. There was no forest trail typical of this beast leading into this trail beneath the log, following along for some 6 or 8 ft. and then going on into the forest.

Feb 20 6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.

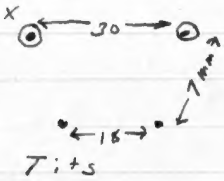
1 in 17 steel traps. Brought in by collectors. Small but well formed pouch.

Feb. 25 1 in 17 steel traps. Brought in by collectors. Notes on pouch which contained a single young —

Opening measured 35 mm ~~long~~ long by 20 mm. broad. Border (5 mm.) of thin, short, light grey colored hair about lips. Shape of opening is ~~open~~ oval with a 7 mm. space between anterior borders of lip. From posterior lip of pouch to vagina measures 95 mm. Pouch itself is broad oval in shape measuring 90 x 70 mm.; sparsely haired. Covering teats see diagram below. The 2 anterior ones are functional that is lactating. The posterior pair though apparently enlarged are not lactating. The young was attached to the ~~upper~~ anterior left (marked x). Length of anterior teat 22 of posterior teat 10 mm. From the anterior lip of the pouch to the anterior teat is 55 mm. Of the two anterior ~~teats~~ glands the right is the most enlarged, not the ~~X~~ gland to which the young was attached.



Pouch opening



The young found in the pouch was # 7545 albinistic, blind and apparently ~~unnourished~~. Its activities were watched while it was in the pouch and then the teat to which it was attached was cut and its activities watched while it was on a board and again while being held aloft by the cut end of the teat. In all these conditions similar

activities and reactions were exhibited. No sense of equilibrium. Activities were a constant pawing with the front feet. The hind feet ~~remained~~ together with slight movement from the hips but most movement from the lower spinal region. Whereas the front feet were constantly kept in a more or less rhythmical motion the hind feet moved forward and upward toward the ~~hind~~ front feet and back in a slow sporadic tempo (not rhythmical). The side motion was almost entirely restricted to the hind or anterior part of the body. No rhythm to the ~~one~~ similar to hind feet motion. No noise uttered. Tail remained in motionless though head was suspended by ~~tow~~ cat end. The stomach contained remains of fruits and small amount of young leaf material.

Nov. 2 ~~4 Km SW Bernhard Camp~~ Idenburg River, Netherlands New Guinea 1200 m.
1 in 182 snares. Brought in by collector. Stomach contained remains of young leaf and other such green materials (young succulent vegetation)

Nov. 14 4 Km. SW Bernhard Camp Idenburg R, Netherlands New Guinea 850 m.
1 in 27 steel traps. Brought in by collectors. Taken in forest runway. Habitat low ridge with low heavy forest, open undergrowth, and leaf littered forest floor. Stomach contained remains of young shoots, leaves and such green materials. No fruits remains seen in stomach. Many round worms in stomach.

Nov. 24 1 in 27 steel traps. Brought in by collector. Stomach contained remains of green plant material.

Nov. 27 1 in 832 snares. Brought in by collectors. ~~Gt~~ Stomach contained green leaf remains. Many round worms in stomach.

Nov 30 1 in 27 steel traps. Brought in by collectors. Stomach contained green vegetable material. Many round worms in stomach.

Dorcopsis

Apr. 3 4 Km. SW Bernhard Camp Sepik R. Netherlands New Guinea 850 m.
1 in 27 stub taps. Brought in by collector.
Stomach contains remains of green vegetation. Many round worms in stomach.

Apr. 4 2: (♂ Juv.) in 998 snares. Brought in by collector.
In pouch was very small young (no dentition). Measurement of pouch region as follows.
Posterior lip of pouch to vagina 110 mm.
Pouch opening — 30 long by 22 broad.
Size of pouch 115 long × 70 broad.
Anterior tit to anterior lines of pouch 80 mm.

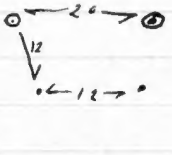


Diagram of tit. The 2 anterior tits marked ⊙ were both functional (lactating) however there was only 1 young. This young was attached to the smaller of the 2 functioning tits. Smaller in size of tit and size of gland. It is not smaller at end of tit, that portion which is in the mouth of the young. • size of tip of tit to which young was attached. ○ size of tit end to which there was no young attached. I believe that the larger functional tit was the one to which the previous young was attached. At the time of birth of the present young this tit was too large to attach itself to and so it used 1 of the other 3. Thus a tit ~~does not seem to function~~ more than every other young giving it a chance to rest and return to non lactating state. If the young was able to attach itself to the tit of the previous young I ~~doubt~~ doubt whether the constituents of the milk would be correct for such an immature beast.

20 m B. Richardson
1938

Echymipera kalubu

June 13 Hollandia, Netherlands New Guinea.

One specimen, a large adult male, was sold to me this morning by one of our Santani Cookies for 25¢ providing I would return the carcass to them for food. They consider them good eating and from all external appearances I can't see why not; a nice light colored meat which cut easily with the scalpel. According to the cookie this animal was caught or rather shot with his bow and arrow 2 kilometers northeast of Hollandia in or near a small sago swamp which is situated at the mouth of a river (small).

This evening we went hunting in the same region but failed to see any although wild pig were common there.

June 17 Hollandia, Netherlands New Guinea.

A subadult female was taken from the traps set on the hill to the south east of Hollandia. Its exact habitat is unknown to me but the general habitat is that of a second growth forest beneath which there is both open spots and scattered brushy undergrowth.

The local names for this animals are

Semoie - Sokaki
Tekus - Malay
Eme - Santani

June 18 Hollandia, Netherlands New Guinea.

My two collecting cookies pointed out the trap in which the yesterdays specimen was taken. It was at the edge of a little bogs beneath a second growth forest. Beneath this forest there is an open undergrowth and litter. In this latitude soil is covered with a thin layer of humus and leaves.

June 24 Hollandia, Netherlands New Guinea
The Dyak collectors killed one of these beasts this morning. I presume that it was taken in the vicinity of the trap line which is about ½ mile south west of Hollandia.

June 29 Hollandia, Netherlands New Guinea
Purchased an adult ♂ from a Papuan this morning .35¢. He said it was taken in the jungle while felling trees. Another juvenil ♂ was taken by my Papuan collectors while hunting in the jungle.

July 4 Hollandia, Netherlands New Guinea.
Purchased (35¢) another ♂ from the natives this evening. The (young boy) had shot it with a bow and arrow as evidence by the hole in the carcass and the bloody arrow. It was probably taken in the jungle in the immediate vicinity for it was local boys that brought it in and it was still in a warm relaxed condition. (Prepared on 5 July)

July 8 4 km. NE Dojo, Netherlands New Guinea
The specimen prepared today was one of three brought in by a Papuan from Mt. Ekeli at or near Dojo on Sentani Lake.

July 9 Hollandia, Netherlands New Guinea.
One of the Ambonese collectors shot an adult ♀ with juvenil in pouch. I did not inquire as to the exact locality but presume it was taken within 2 km. of Hollandia.

July 12 4 km. NE Dojo, Netherlands New Guinea
Two of the specimens #346 and #350 were ones which were brought in to Hollandia by Mr. Ekeli's coolies. They were taken at or near Dojo on Sentani Lake. They have been kept alive

Wm B. Richardson
1938
1939

Echymipera

for the past few days but due to improper food and housing they died.

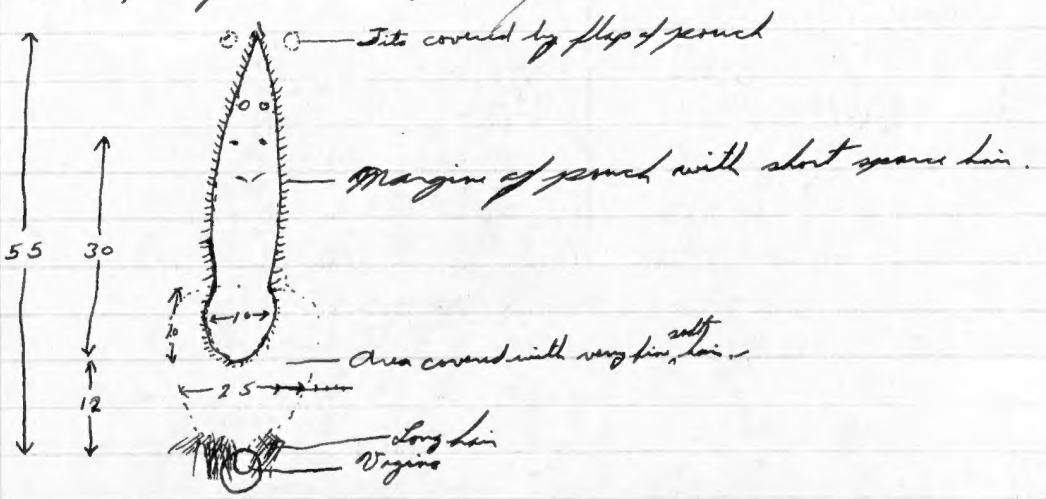
July 12 Hollandia, Netherlands New Guinea.
A local native brought in a large adult male last night which he had taken with bow and arrow in the jungle near Hollandia.

July 15 4 km NE Doja, Netherlands New Guinea.
The three specimens prepared today were brought down by Mr. Chalk yesterday. They were taken in the vicinity of his home near Sentani Lake.

July 16 Hollandia, Netherlands New Guinea.
The Dyak shot a ♀ with its young in its pouch. It was taken while hunting with flash light in the jungle south of Hollandia.

Feb. 18 6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
1 in 23 snares. Brought in by collector. Stomach contained remains of many insects and other invertebrate life. Noted such things as centipedes, angle worms, beetles, grubs, ants, eggs of different insects (probably ants). etc.

Feb. 20 1 in 74 snares. Brought in by collector.
Following information is from fresh specimen.



The pouch is remarkably long extending forward to within 1 cm of front legs. From lip to head it measures 180 mm. The width is fairly constant throughout measuring between 50 and 60 mm. The snare which caught this beast caught it mid way between fore and hind legs; 170 mm from tip of snout. If that is the snare, also caught the young which was in pouch mid way between fore and hind legs. (See alcoholic specimen). This would indicate that young were carried in pouch with head toward posterior of adult. It is also interest to note the well formed pouch in the juv. ✱ This is not apparent in juveniles of the related genera Perogale

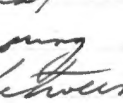
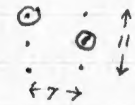


Diagram of tits. The forward two equally enlarged and lactating. The middle pair small not lactating. The posterior pair very very small. They measure respectively 27 mm., 6 mm., 4 mm.

Feb. 28 6 km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
1 in 182 snares. Brought in by collector. Stomach contained insect remains.

Mar. 9 4 km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
3 (2 ♂♂) in 141 snares. Brought in by collectors. There were 2 young in pouch unattached to tits. Measurements of pouch. Pouch slit 30 mm. ✱ Posterior lip of pouch to vagina 12 mm. Pouch 100 × 45 mm



Only 2 individuals of the 3 pair lactating. Lactating tits measure 20 mm. Non lactating measure 2 mm. From posterior pair of tits to lip of pouch is 30 mm. The lack of tail in adult curious. The 2 yng., however, both have apparently normal tails (see alcoholics).

Echymipera

On examination of about 15 cm. remaining caudal vertebra I believe that the absence of the tail is not a normality. ~~Dwarf~~

Mar. 14 6 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
1 in 231 snares. Brought in by collectors.

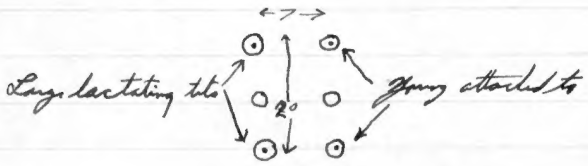
Mar. 15 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 209 rat traps Brought in by collector. Jaw. Badly mutilated by ants.

Mar. 16 3 (2 Juv.) in 508 snares. Brought in by collectors
The anterior 2 of the 6 (3 pair) of the are lactating.
Vagina to hip of pouch 12 mm. Vagina to posterior tits 40 mm
Length of tit row is 12 mm. Length of pouch opening is 40 mm. Stomach contained numerous small insect

Mar. 18 2 (1 Juv.) in 573 snares. The interesting thing here is the relatively small size of the breeding animal. Apparently these bandicoots do not reach a size where growth ceases but rather there is a continued growth throughout their life time. There was only 1 of the 6 mammary glands lactating, one of the anterior pair. Stomach contained remains of many small insect.

Mar. 21 4 (2 Juv.) in 670 snares - Brought in by collectors.
The adult ♂ #7703 is the largest I have yet taken in this camp. In comparing it with the ♀ at hand I can see no difference except in size and the yellow belly and yellowing to the dorsal hair. This later coloration, that is the yellowing of the hair might well be stain rather than a natural color. The ♂ certainly is much larger and more massive proportion which seemingly indicates a growth throughout life. In the pouch of the ♀ #7698 are two Juveniles #7699 + #7700. One still remains alive. The following are notes on its activity. — While attached to tit is inactive except for rhythmical movement of stomach muscle which gives a quick contacting about every 2 to 3 sec. There is no sign of equilibrium nor apparent effort to

large positions. When disturbed with forceps it makes a very slow clawing motion with front feet. ~~At~~ At present I am watching the little beast and very occasionally in addition to the stomach contortions there is a slight movement of shoulders and head, seemingly an effort to obtain milk from the tit. On being removed from the tit and placed near the vagina the beast lies inactive on its side except for a more rapid contraction of the stomach walls. No effort whatsoever is being made to crawl. On being redisturbed still makes no effort to crawl. When placed in pouch still inactive. Tit placed to mouth no effort made to attach itself.



This diagram of the ~~teats~~ is interesting in that of the 3 pair 2 tits ~~marked~~ labled large lactating are in size 50 or more times as large as the others which are approximately the same in size. These 2 large lactating tits are far too large for the young to attach themselves to. They measure 3.5 m.m. through at the tips while the muzzle of the young have a depth only of 3.7 m.m. From this I would conclude that the young on birth have a choice of 4 tits rather than six on to which to attach themselves and those 4 being of approximately the same size and the same functioning state. On attachment however those tits only continue development the others becoming small and non functional. The 2 large lactating tits here are probably those that were used by the two previous young and have not as yet returned to the size and shape of non-lactation. They will probably do so with the

Echymipera

development of the other glands and thus done. If these large tits, ~~or mother~~ the post functional ones, are present at time of birth as is the case here, it will ~~the~~ function as a rotation of ~~x~~ mammary activity. If young are born at the same time the last litter ~~too~~ were ~~x~~ weaned it would give the glands a rest period ~~and~~ ~~x~~ without delaying birth periods.

Length of Pouch opening 40 mm.
Lip of pouch to vagina 10 mm
Lip of pouch to posterior pair of tits 28 mm.
Pouch dimensions 120 x 62 mm.

Stomach of both adult individuals contained insect remains and seeds of Pandanus and the 8 bad. seeds of unidentified fruit.

Mar. 22 4 k. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.

3 (2 Juv.) in 742 snares. Taken on a low ridge with rather an open forest and moderately heavy undergrowth. The forest floor bad - leaf litter. The most interesting thing is that the snares were set beneath a fruiting pandanus many of the fruits of which had fallen and had in part been eaten by some animals. It is the same pandanus (sp.) the seeds of which have been found in the stomach of other bandicoots. The pouch contained 2 young. (see details)

Pouch measurements
Posterior lip of pouch to vagina 12 mm.
Pouch opening 40 mm.
Posterior lip of pouch to posterior tit 32 mm.
Length of tit 14 mm.
Breadth of tit 5 mm.
Size of pouch 90 x 45 mm.

Mar. 24 1 in 812 snares. Brought in by collector. Head only, remainder of beast eaten while in the snare.

Mar. 29 4 Km. S.W. Bernhard Camp Idenburg R., Netherlands New Guinea 850 m.

2 in 207 rat traps + 845 snares – Brought in by collectors. Stomach of large ♂ contained remains of insects and pandanus seed.

1 in 876 snares. Brought in by collectors. This bat seems to me to be different than the species taken yesterday. It is grayer in color particularly dorsally and laterally; it has a longer narrower ear, darker eye patch, large tubercules sole pad on hind foot measuring 23 × 8 mm. The absence of the tail is an abnormality. A very short stub can be felt under the skin.

Mar. 31 1 in 931 snares. Brought in by collectors. Taken on low ridge above the flood plain S. the NW of camp. Stomach contained insect remains and Pandanus fruit

Apr. 1 2 in 987 snares. Brought in by collectors.

Apr. 7 2 in 1075 snares. Brought in by collectors.

Apr. 10 Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.

1 in 346 traps. Brought in by collectors.

Apr. 15 1 in 253 snares " " " "

Taken on upper flood plain. Stomach contained insect remains, insect (?) eggs, and broken membranes of some reptile egg.

Apr. 16 4 in 27 steel traps + 328 snares. #7863

Taken on flood plain, the others on the lower mountain slope. The penis of #7861 and #7863 are similar being short with a vertical flattened tip of less than ⅓ the entire length. The female had 6 tits of equal size, non lactating. The anterior end of the pouch had a small (2 mm) opening.

Apr. 19 1 in 418 snares. Brought in by collector. Taken on lower mountain slope.

Apr. 20 2 in 463 snares. Brought in by collectors. Larger species taken on flood plain. Smaller

Echymipera

species taken on lower mountain slopes above flood plain.

Apr. 21, Bernard Camp Idenburg R. Netherlands New Guinea 75 m.
2 in 483 snares. Brought in by collectors.
The specimen (skull only) had roughened soft pads.

Apr. 22 4 in 520 snares, + 257 rat traps. Brought in by collectors
#7889, #7893, #7894 taken on lower mountain slopes above flood plain. #7890 taken on upper flood plain.

Apr. 23 3 in 570 snares. Brought in by collectors.
(2 Juv.)

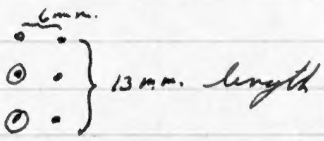
Apr. 25 3, in 602 snares Brought in by collectors.
Taken on lower mountain slopes ~~at~~ above flood plain. The 2 Juv. are in alcohol. Pouch measurements as follows —

Vagina to posterior lip 10 mm.
Length of opening 46
Vagina to posterior ~~lip~~ tit 36
Length of pouch 112
Width of pouch 60

— This part ~~[illegible]~~ opens and closes with spreading of legs.

— This remain open. As legs are closed together a tube by extrusion to the pouch is formed, the thickened surrounding wall forming lips.

Diagram of pouch opening



Of the 6 tits 2 were functional. The others though enlarged apparently not lactating. Non lactating ones of similar size.

Young not attached to tits

Apr. 24 2 in 602 snares Brought in by collectors.

Apr. 27 2 in 652 " " " "

Apr. 29 Bernard Camp Idenburg R. Netherlands New Guinea. 50-75m.
3 (1 Juv.) in snares. Brought in by collectors. Taken on small strips of land bordering the mouth of the stream when it enters into the lagoon. This area is above the present flood water which completely surrounds it. Habitat flat of the forested flood plain. Measurements glands all of apparently the same size except one t which young was attached this being about ½ again as long, but the same thickness.

Apr. 30 1 in 799 snares. Brought in by collectors. Taken on lower mountain slope.

May 1 5 (2 Juv.) in 850 snares. Brought in by collectors. #7983 & #7984 taken on lower mountain slope. #7987 taken on forested edge of lagoon. The flooded condition of the present time leaves small strips of land exposed and it was on one of these that the animal was taken.

May 2 2 (1 Juv.) in 893 snares. Brought in by collectors from lower flood plain. Same locality as that taken on May 1.

May 3 3 (2 Juv.) in 893 snares. Brought in by collectors from snares set along small strips of exposed land (above flood water) at mouth of stream entering lagoon.

May 4 1 shot last evening by collecting boy. It was running about the leaf littered floor of the exposed (above present flood) forested land near the lagoon. Habitat - primary forest, moderately thick undergrowth, moist leaf littered floor. There was 1 young also in pouch (not saved)

May 5 1 ~~brought~~ in from 986 snares. Taken on lagoon banks.

May 6 2 in 1055 snares. Alcoholic specimen from lagoon banks. Skull only from east side of Idenburg River.

May 7 4 (1 Juv.) in 1055 snares. Brought in by collectors. #8031 taken on lagoon banks. #8033 taken on the east

Wm. B. Richardson
1939

Echymyiera

side of the river. # 8035 and 8036 taken on lower mountain slopes SW of camp.

May 8 ~~Bernard Camp Idenburg R. Netherlands New Guinea~~ 500 m.
3 (2 Jov.) in 1955 stems (decorted) Brought in by collectors from across the river.

20 m B. Richardson
1938

Emballonura

July 14 Hollandia, Netherlands New Guinea. sea level.
One individual was brought in yesterday evening by a local native. I was unable to find out from him the habitat or exact locality.

Feb 13 6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
One shot yesterday evening. The bat was flying between 10 and 20 feet ~~x~~ ~~x~~ above the ground; flying across the the camp clearing and at the same time feeding. It is apparently a bat which feeds in above the under growth or below or in the second story vegetation. One interesting thing is that they generally fly out in pairs, and then in 3's or 4's. They have a rather slow laborious flight. There are many of this species, judging ~~x~~ from flight activities, seen each evening. I would estimate that there are between 40 and 50 seen each evening.

Feb. 15 1 shot yesterday evening which it was foraging about the leafy plays of of the second story about 25 ft. above the ground.

Feb. 20 1 shot by Rand. Shot about 6.40. Flying over camp clearing some 20 ft above the ground. Moderately slow flight. I believe that both species of this genus feed in the forest above the undergrowth and below the second story vegetation. They are shot about camp clearing only as it offers a suitable place in which to find them after they are hit.

Feb. 21 1 shot by myself. Flying about 20 ft above ground across a small opening of camp clearing.

Feb 24 2 shot by Rand. Flying low between wooded points of either side of the camp clearing. The end.

Mar. 26 4 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 85 m.

2 individuals shot yesterday evening. They were a member of the small bat flying some 40 to 50 ft. above the ground in the second growth forest at the upper edge of the flood plain. They were feeding in small openings and about the crowns of this second growth forest. There were perhaps 20 to 30 individuals in last evening.

Mar. 29 2 shot yesterday evening. Same place and same circumstances as those taken on Mar. 26.

Mar. 31 1 shot yesterday evening. Shot in same place as above. These bats have a moderately rapid flitting sort of flight with very quick breaks. They feed in small openings between the crowns of trees of the upper flood plain.

Apr. 3 1 shot yesterday evening. Flying high about crowns of the upper flood plain trees.

Apr. 12 Bernhard Camp Idenburg R. Netherlands New Guinea 75 m.

3 individuals shot yesterday afternoon. They were hanging at rest beneath a large leaf (12 in across) some 12 ft above the ground. It was not dark beneath but rather the thin, translucent leaf gave them little shelter except from rain. When I first saw them they were huddled together, alert watching our movements. They made no attempt to fly away.

Apr. 18 4 individuals shot this afternoon. They were hanging beneath a fan palm leaf. When first seen they were flying about in a small (15 ft) circle through the foliage of the upper lower second story vegetation. After about 3 or 4 minutes flight they came to rest beneath a palm leaf some 20 ft above the ground. They hung individually some 2 or 3 inches apart. The 2 ♀ each contained a young

Elm D. Richardson
1939

Emballonura

Apr. 20 Bernhard Camp, Idenburg R., Netherlands New Guinea 75 m.
4 shot from beneath a leaf of a fan palm. It was on the upper flood plain in mixed primary and secondary forest. The leaf was some 15 ft above the ground. Two adults were huddled together and some 30 or 4 inches away the other adult hung. They were awake and watching our activities but made no attempt to fly away.

Apr. 22 2 shot by my collecting boy this afternoon. According to him they were hanging up beneath a small leaf of one of the upper flood plain trees. the morning

Apr. 23 2 shot by Rand. He said they were flying about in the forest.

Apr. 27 1 shot. Flying high about foliage of edge of lagoon. It was feeding with many fast breaks, on erratic flight. Herb.

Apr. 28 11 shot. They were hanging up in 3 different groups, under large leaves. There were 2 groups of 3, and 1 of 5 individuals. One group of three had 2 ♂ and 1 ♀ adult. One group had 1 ♂, 2 ♀ 2 young. The other group had ? . They were hanging up some 5 to 7 feet ~~#~~ above the flood water.

Apr. 29 2 shot this morning from under a large fan leaf in the inundated forested border of the lagoon. They were ~~took~~ hanging up some 4 ft. above the water.

May 1 5 shot this morning by collecting boy.

May 3 1 shot by collecting boy.

May 4 1 shot yesterday evening. It was flying some 30 ft above the water along the forested edge of the lagoon.

May 7 9 shot. One shot yesterday evening while flying along the tops of stream side. The others were found by collectors hanging up beneath leaves in the forest in groups 4, 2, 1, 1.

May 8 2 shot yesterday evening flying about forested lagoon border.

Capt. B. Richardson
1939

Epsteiens ~~parvilus~~

Mar. 11 4 Km. SW Bernhard Camp Sepik R. Netherlands New Guinea 850 m.
1 caught yesterday evening by convict. It was taken while flying about camp.

Eudromicia cardata – While at Lake Habbema four of the small marsupials were brought in. The habitat was that of the subalpine forest with Libocedrus trees, clumps of Rhododendrons and other shrubs, and its grassy moss floor. Three animals were taken from their nests on from a moss clump; two from cavities in the Libocedrus tree; and the other point of origin was unknown. The nest from which the former was taken was constructed in an old moss clump attached to the side of a dead Libocedrus tree about nine feet above the ground. This moss clump, about eighteen inches in diameter was held together in a compact mass by the numerous dead and dying plants which had established themselves in the structure and raged about the tree. The nest chamber (3 X 4 inches) was constructed in the moss clump and filled with dry fibres of the same material. The entrance was

on nest in diameter leading through the overhangs to the top of the nest. There was no doing or refuse about the nest. Two individuals from the camp were kept alive in ~~[illegible]~~ box cages for a period of one to two days. The following information was made from the caged animals.

Locomotion — They were very agile climbers about with as easy that surpassed that of either Phalanger maculatus or Pseudocheirus ~~[illegible]~~. As compared with Pseudocheirus ~~[illegible]~~ the digits of the front and hind feet have a larger terminal pad and a smaller claw. The front feet are not as well adapted for grasping, that is the two fingers are less opposable to the other the grasping ability of the hind feet are similar. The tail is used but little in climbing and then as a brace or balance when going from limb to limb. It is seldom used prehensilely for this animal depended upon the grasp of the feet in climbing on

descending a hill.

Voice - I did not hear them utter any sound except an occasional forcing of air out through the nostrils which produced a hissing sound. This occurred only when they were excited.

Food - The fruit of wintergreen (Gaultheria) was the only food these captives would eat. The small blue berries were picked up between their front paws and squeezed with the sitting up to the fleshy parts discarding the seeds and skin.

Two individuals were taken in traps at the 3600 a camp. The traps were set in small runways at the edge of the subalpine vegetation where the uneven terrain of the hill slope was vegetated with heat clumps, scattered Fir boughs, and a broken ground cover of moss.

At the 3800 m camp one individual was taken in a trap 150 m above camp on a hill slope at the upper edge of a strip of ~~slight~~ cut alpine forest. ~~[illegible]~~ The trap was set beneath a ~~experiment~~ bush which ~~[illegible]~~ during this season. It is quite possible that it had come there to feed. ~~The other animal was taken in a trap which~~

Three individuals were taken from the 2800 m camp. One brought in by natives. The singed condition would indicate that it had been burned out of a tree. Another was brought in by a collector. He thinks it was taken in a trap set on the hillside many miles of the many forest. The ~~the~~ forest was atypical in that the natives had killed many of the trees by ring barking.

~~Different~~ ~~by~~

Sixteen individuals were brought in by natives to the Bele River camp. One of these was still warm when brought in indicating that it had been taken somewhere in the

immediate vicinity.

An individual was taken at the Bolin River camp by a Dyak with the aid of a native. According to the Dyaks story it was taken from a hole in one of the fig trees (Ficus) which bounds the river. The trees were in fruit at this time. The following notes were made while watching the animal. The defense attitude was that of raising up on the hind feet, fore feet in front, and the mouth open. The tail was curled while running but the flow of the cage on a large dorsal coil (1½ loops) the base of the coil being close to the body. When climbing about the bars with which the cage was provided, the tail was held at behind with a slight downward curl. It was used as a brace with the objects with which it came in contact rather than as a prehensile organ. It was a very active animal, keenly alert to noise and movement. It died within 24 hours of captivity.

Eudromicia candata. - While at Lake Habbema four of these small marsupials were brought in. The habitat was that of the sub-alpine forest with its Libocedrus trees, clumps of Rhododendron and other shrubs, and its grassy-mossy floor. These animals were taken from their nests or from a moss clump; two from cavities in the Libocedrus trees; and the other's point of origin was unknown. The nest from which the first was taken was constructed in an old moss clump attached to the side of a dead Libocedrus tree about nine feet above the ground. This moss clump, about eighteen inches in diameter, was held to the tree in a compact mass by the numerous dead and dying plants which had established themselves in the structure and were wrapped about the tree. The nest chamber (3x4 inches) was constructed in the moss clump and filled with dry fibers of the same material. The entrance was one inch in diameter, leading through the top of the moss clump to the top of the nest. There was no dung or refuse about the nest. Two individuals from this clump were kept alive in box cages for a period of one to two days. The following information was obtained from these caged animals:

Locomotion. - They were very agile, climbing about with an ease that surpassed that of either Phalanger maculatus or Pseudochurus

. As compared with Pseudochirus the digits of the front and hind feet have a larger terminal pad and a smaller claw; the front feet are not as well adapted for grasping, that is, the first two fingers are less opposable to the other three; the grasping ability of the hind feet is similar. The tail is used but little in climbing and then as a brace or balance when going from limb to limb. It is seldom used prehensily, for this animal depended on the grasp of the feet in climbing or descending a limb.

Voice. - I did not hear them utter any sound except an occasional forcing of air through the nostrils, which produced a hissing sound. This occurred only when they were excited.

Food. - The fruit of wintergreen (Gaulthina) was the only food these captives would eat. The small blue berries were picked up between their front paws and squirrel-like, sitting up, they ate the fleshy parts, discarding the seeds and skin.

Two individuals were taken in traps at the 3600 m. camp. The traps were set in small runways at the edge of the sub-alpine vegetation, where the uneven terrain of the hill slope was vegetated with bush clumps, scattered Libocedrus trees, and a broken ground cover of moss.

At the 3800 m. camp one individual was teken in a trap from 150 m. above camp on a hill slope at the upper edge of a strip of sub-alpine forest. The trap was set beneath a Coprosmo bush, which, during this season, was fruiting. It is quite possible that it had come there to feed.

Three individuals were taken from the 2800 m. camp. One brought in by natives. Its singed condition would indicate that it had been burned out of a tree. Another was brought in by a collector. The third was taken in a trap set on the littered mossy floor of the mossy forest. Here the forest was atypical in that the natives had killed many of the trees by ring-barking.

Sixteen individuals were brought in by natives to the Bele River camp. One of these was still warm when brought in, indicating that it had been taken somewhere in the immediate vicinity.

One individual was taken at the Balim River camp by a Dyak who captured it alive with the aid of a native. According to the Dyak's story, it was taken from a hole in one of the big trees (Ficus) which border the river. These trees were in fruit at this time.

The following notes were made while watching this live animal:

The defense attitude was that of rising up on the hind feet, the fore feet in front and the mouth open. The tail was carried while running about the floor of the cage in a large dorsal coil ($1\frac{1}{2}$) the base of the coil being close to the body. When climbing about the ~~xxxx~~ limbs with which the cage was provided, the tail was held ~~xx~~ out behind with a slight downward curl. It was used as a brace with the objects with which it came in contact rather than as a prehensile organ. It was a very active animal, keenly alert to noise and movement. It died within 24 hours in captivity.

25 m. B. Richardson
1938

Eudromicia

Aug. 4 Lake Habbema, Netherlands New Guinea 3225 m.

(1) Yesterday afternoon a Dyak brought in a living individual of this genus.

Locomotion: This animal is very agile climbing about with an easy that surpasses Pflanzer or Pseudochirus. The front feet although apparently not as ~~particularly~~ adequate for grasping as Pseudochirus. They do however have enlarged terminal tipped pads which must be of value in grasping roughed surfaces. These pads are well developed whereas the claws are poorly developed. The degree of grasping of the hind foot is similar to that of Pseudochirus but differing from the latter in that there are terminal toe pads similar to those of the front feet. The tail is used but little in climbing. It seems to act as a brace when going from limb to limb. It seldom used prehensily. The animal depends upon the grasping of the feet rather than the prehensile tail for support in climbing on descending limbs.

Voice: I have heard no sound except the occasional sniffing of the beast when excited.

Nest: A attempt to construct nest in the moss and cotton ~~on~~ the floor of the cage.

Food: Fruit of Gaultheria. Only the inner fleshy parts are eaten, the seeds and skin being discarded. The food is eaten by grasping it in the front paws and sitting up to eat much as a squirrel.

Miscellaneous notes: At the time of writing this animal was hanging by its tail from one of the higher vertical cage sticks. Its tail had a complete loop about the 1" diameter stick. One of the hind feet was grasping a smaller lower stick and the other three were free. On disturbing the beast I found that it was dazed. It has apparently lost all of its locomotor senses for it is now lying on its side in a curled up position on the floor of the cage. When first taken it was very active spending much of its time running and climbing about the cage. Today it was less active and now it is stupefied.

Aug 5 Lake Habbema, Netherlands New Guinea, 3225 m.

The captive died last evening and was prepared as a specimen today.

Aug 11 Lake Habbema, Netherlands New Guinea. 3225 m.

(1) An individual of this genus was brought in alive this morning by one of the Dyaks who was cutting wood for camp. He took me to the spot where it was taken which is about 3/4 kilometer south east from camp. The general region was that of open Libocedrus trees with scattered clumps of rhododendron and other brush on a grassy moss floor. The nest from which the beast was taken was constructed in an old moss which had been quite soiled by the impregnation of urine of dead or dying plants. The outside of the clump was covered with lichens. Said clump was situated about 3 meters off the ground on a dead tree. The nest itself was about 3 x 4 inches with an entrance at the top through a hole about 1 inch in diameter and 5 inches in length. As near as I could learn there was nothing added to the nest such as bedding etc. There was no droppings or refuse about the nest. The animal is now being kept alive for observations.

Aug 12 Individual caught last evening yesterday died last evening and was prepared as a skin today.

Aug 16 Lake Habbema Netherlands New Guinea. 3225 m.

(2) Yesterday afternoon the two Dyak collectors returned from their hunt with 2 of this species. According to them they were taken in a small room in a dead Libocedrus. The tree was felled and one, the larger, escaped through the low brush and moss of the open forest.

Sept 16 Zwart. NC Wilhelmina top, Netherlands New Guinea 3560 m.

1 in 363 traps. Individual according to the

Endromicia

collector who brought it in was taken in small mossy at the edge of the sub-alpine forest. A point of interest is that this animal was not in hibernation nor is the result from Hebbern might show.

Sept 12 2 km NE Wilhelmina tops Netherlands New Guinea 3500 m.
1 in 358 traps. The individual was taken from a trap set in a small mossy thicket beneath an open thicket of bush. The region in general was one of bushes on open land, with trees and grass on a uneven hill slope.

Sept 29 2 km E Mt. Wilhelmina, Netherlands New Guinea 3950 m.
1 in 101 traps. Brought in by collector who said it was taken in trap set beneath cryptomeria bush of a just above the edge of the sub-alpine forest. There are large trees in this region but neither bushes, except for the narrow strip of alpine forest which continues along the face of a limestone cliff to or just below where this animal was taken.

Oct 18 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 425 traps. Taken in trap set in mossy over the mossy forest floor. The general region was that of mossy forest with ~~little~~ scattered undergrowth and dead standing timber.

Oct 30 9 km NE Lake Habbema, Netherlands New Guinea 2800
1 in Taken by collectors.

Nov 2 9 km NE Lake Habbema, Netherlands New Guinea 2800
1 brought in by natives. It has apparently been blown out of a tree.

Nov 7 Bele River, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 13 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by native. It was still warm so would judge that it was taken some where in the immediat vacinity.

Nov 14 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives.

Nov 16 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 17 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives

Nov 22 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives

Nov 27 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec. 13 Balim R., Netherlands New Guinea, 1600 m.
1 brought in by Dyak who with the aid of a Papuan caught the beast. According to the Dyak story it was taken from a hole in a tree, one of the trees which fring the river. These trees are principally casuarina and fig, the latter being in fruit. Fruit eating bats. Syconycteris feed on these fruits during the night.
This animal was brought in alive and so had the opportunity to observe it under unnatural conditions. The following notes were made — Defence attitude was that of rearing up on the hind feet, fore feet in front and the mouth opened.
The tail of the beast was carried on a large coil (1½ loops) the base of which lay close to the body. This manner of carrying the tail was used only when on the floor of the cage. When climbing about the limbs provided in the cage the tail was carried behind with a downward curve, being used as a brace with objects with which it came in contact.
It was very active being keenly alert to noise and movement. It did not eat sweet potatoes provided for it.
Died within 24 hrs. of captivity.

Halicore dugong Two individuals were purchased from natives near Hollandia. Both were said to have been killed near the small islands in Hollandia Bay. The large female was estimated as being about three meters in length and weighing between six and seven hundred pounds. Measurements made from the small ♀ are as follows. Total ~~length~~ 1650 mm; flipper ~~length~~ 240 mm; mid point between fin to tips of snout 380 mm; spread of tail 520 mm; tips of tail to anus 530 mm; anus to vagina 240 mm; maximum width 400 mm; maximum depth 370 mm. The remains of some equatic food plants were removed from the mouth of the smaller animal and preserved in alcohol but as yet have not been determined. In the stomach of the large animal there was approximately five gallons of coarsely masticated sea vegetation. This was determined by Mr. Brass as Zostera sp? and a marine Hydrocharid. These native taken animals were pulled up on the beach at the north shore of the bay where a native

shelter had been built. Here they were crudely smoke-drying large chunks of flesh of other dugons. This drying meat and the numerous bones lying about indicate that this had been the base camp of many dugon hunts. The people which hunted these animals lived outside of the bay along the coastal villages to the west. They sought them not only for their flesh but for the large front ivory tusk which could be sold to the Chinese, while those living within the bay did not hunt them

Halicore dugong. - Two individuals were purchased from natives near Hollandia. Both were wais to have been killed near the small islands in Hollandia Bay. The large was estimated as being about 3 meters in length and weighing between 600 and 700 pounds. Measurements made from the small ♀ are as follows: Total 1650 mm.; flipper 240 mm.; mid-point between tip of fin to tip of nose 380 mm.; spread of tail 520 mm.; Tip of tail to anus 530 mm.; anus to vagina 240 mm.; maximum width 400 mm.; maximum depth 370 mm. The remains of some aquatic food plants removed from the mouth of the smaller animal and preserved in alcohol have not as yet been determined. In the stomach of the larger animal there approximately 5 gallons of coarsely masticated sea vegetation. This was determined by Mr. Brass as Zostera sp? and a marine Hydrochoid. These native taken animals were pulled up on the beach at the north shore of the bay where a native shelter had been built. Here they were crudely smoke-drying large chunks of flesh of other dugongs. This drying meat and the numerous bones lying about indicate that this had been the base camp of many dugon hunters. The people who hunted these animals lived outside the bay along in coastal villages to the west, while those living within the bay did not hunt them. They sought them not only for their flesh but for the large front ivory teeth which could be sold to the Chinese.

Wm. B. Richardson
1938

Halicore

June 14 Hollandia Netherlands New Guinea.

Late this morning a note from Mr. Bass notified us that a dugong had been recently killed at a neighboring fishing camp. I returned with the native who delivered the note and found a fine large female animal. According to them this animal had been killed east of "Cuyu Poloo" where the bay meets the ocean on the west of the bay. A complete skeleton as well as small vials of stomach contents were obtained. The stomach was well filled (about 5 gallons) of coarsely macerated sea vegetation. The fact that this animal is used for food is apparent not only in the fact that they dissect the flesh of this beast but there was the remains of a small animal which was being smoked over fires in their temporary shelter. Large chunks of meat hanging here, semi dried in a smoky flame. There were also numerous remains, such as old bones, of dugong indicating that this had been the base camp for numerous dugong hunts. The people occupying the region at present come from a village along the coast north of Hollandia. A thing I forgot to mention is that according to the natives there from "Cuyu Poloo", "Cuyu Batu" and "Tobati" do not eat the flesh. However, the canine teeth are considered valuable as trade to the Chinese aboard the monthly mail boat. The size of the animal was about 3 meters in length and I would guess the weight to be between 6 and 7 hundred pounds. The native names for this animal is —

"Doung" = Malay Dwie = Tobati
Saragu = Cuyu Poloo and Cuyu Batu.

June 18 Hollandia, Netherlands New Guinea.

Mr. Brass today kindly identified the preserved material saved from the stomach of the dugong taken on June 14. — Zostera sp. and a marine Hydrocharid. No. 8856 Brass's catalogue is an equatic plant. This did not however seem to be the one eaten (too coarse) but rather a finer marine plant. This was not preserved because of the absence of fruiting bodies.

June 19 Hollandia, Netherlands New Guinea.

Today, (this morning) several men from Tab la suf a came to answer that they had another dugong. The specimen was in the same temporary fishing camp as the previous animal (June 14). It was a young ♀ (?). According to the fishermen it was taken in the same place as the June 14 animal, and north east, (back of) of "Cape Bata". Some measurements: — Total length 1650; Flipper length 240; Midpoint between fin to tip of nose 380; Speed of tail horizontally 520; Tip of tail to anus 530; Anus to vagina 240; Maximum ~~length~~ width horizontally 400; Maximum width vertically 370. There was food in the mouth of the animal that is preserved in alcohol. According to the fishermen which harponed this animal it is not used as food by the peoples living in or about Humboldt Bay; but is eaten by the villages along the coast such as "Tab la suf a", "Tab la nu so" "La car e", "Der men a", "Ya pas ea", "Yon chum", "Moris" and many others. This is evident also by the fact that the bay people do not carry harpoons on their prows while those outside do. This difference in food preference of the natives is not due to the fact that the animals do not occur within the bay, for both the bay people and those outside say that dugongs are plentiful within the bay; several tell me that they come at night beneath the houses of the Tobati people.

Wm. S. Richardson
1938

Hipposideros

June 12 Hollandia, Netherlands New Guinea

Today I revisited the cave previously discovered by Nard and myself. (See General Account Page 17, June 7, 1938). Archbold and myself decended into the cave about 8:30 and remained there for 1½ to 2 hours. We followed the stream course for about 500 yd and turned back, without having reached the end. Within 100 ft. of our destination we found a small room 6 ft. wide, 10 ft long, and 10 ft high on the elimination roof of which were from 40 to 50 bats hanging. They left immediately after being disturbed with a roar.

This evening I again returned to the entrance of the cave to obtain specimens. I arrived there about 15 minutes to 6:00 and at 5:53 the first bat came out of the cave and after a short flight (50 ft) returned to the cave. This was duplicated several times during the next 15 seconds and then the full force of the flight began. They emerged from two entrances near each other at a rate of from 2-4 every second. At first when they emerged they seemed to find it necessary to orient themselves or perhaps been accustomed to the light, for they would often fly out on one side and back in the other or take an unnecessary sweep outside before joining the line of flight southward. As it grew darker there seemed to be little need of this orientation flight, but rather they came immediately into the line of flight. It was also observed that the line of flight was more clearly defined after 5 minutes of their first emerging. Those commiting out during the 5 minutes that I watched them seemed to be intent on going to their feeding grounds, only a few were seen feeding en route. I fired a shot into the entrance and obtained two individuals each of a different species. While wiggling on my belly into the entrance of the cave looking for other bats that I might have killed I saw a snake about a foot long, a slender animal looking much like an eel, with swallowing a bat. The tips of the wings were still protruding from its mouth. I was unable to obtain it for a specimen,

later on I obtained two more bats, one of each species by knocking them down with sticks.

June 15 Hollandia, Netherlands New Guinea.

Today I revisited the bat cave and obtained one specimen by striking it with a stick as it emerged from ~~the~~ the entrance. When I arrived 6:04 there was a rapid flight from the two entrances averaging about 10 bats each per ~~sec~~ second. A definite orientation of the bats was observed as they emerged, usually flying about in a low circle and into the line of flight to the south. 25 %, however, showed ~~not~~ no sign of orientation but rather broke immediately into the flight line.

June 14 Hollandia Netherlands New Guinea.

Returned this evening to the bat cave. At 6:00 when I appeared on the scene there was a strong flight. At first I was unable to obtain any of the individuals but later in the evening 6:30 – 7:00 I obtained 12 by knocking them down with a stick as they emerged from the cave. I obtained the snake which I assume was the same one previously seen in the cave swallowing bats (a bat.) It was crawling along a crack in the line ~~stone~~ wall in the first small room, 6 feet from the entrance. It was within 3 ft of the same locality that I observed it previously. Dissecting the bats tonight I found two embryos within two bats. One embryo per bat. Both the snake and embryos are being preserved.

June 17 Hollandia, Netherlands New Guinea.

This morning I sent my two Papuan collectors into the jungle and they returned two hours later with two bats. According to them they had

Wm. B. Richardson
1938

Hipposideros

taken them from a hole in a tree. As nearly as I can distinguish they are the same species as those taken at the mouth of the cave. The jungle from which they were taken is about 1 kilometer north of Hollandia, elev 100 m.

Names of bat in the three different local languages:

Lawa (Clawer) – Malay
Padja – Sentani
Hig 9y – Tobati

June 20 Hollandia, Netherlands New Guinea.

This evening my two Papuan collectors returned from the bat cave with 14 individuals, 3 of one species, 11 of the other.

June 30 Hollandia, Netherlands New Guinea.

This evening I attempted to follow the line of flight of the bats from the entrance of the cave to 3. At 6:10 (this is my time) the bats were plainly seen crossing the trail to Sentani about 150 yd south of van Eilens. This is about 100 yd from the entrance of the cave. From there the line was plainly seen and subsequently followed ~~west~~ south west diagonally up the hill. The trail was lost after following the trail about 200 yd, or 75 meters. This loss of the trail was due to two factors a decrease in light intensity and a decrease in the number of bats. When I returned to this way the line crossed the trail at 6:45 there were only two bats seen and these going in the reverse direction. It is quite possible that they were not bats of the flight line. The jungle through which the line of flight passed is a cut over rain forest with a heavy undergrowth of thickly foliated small trees. It is quite possible that this type of vegetation is desirable because of the darkness beneath and the early exit of the bats.

July 1 Hollandia, Netherlands New Guinea

This evening I again attempted to follow the line of flight of the bats. At ~~6:15~~ 5:45 there was no evidence of their coming from the cave. I proceeded up the hill to the vicinity of the forest where the trail was lost yesterday evening. 6:00 found the line and proceeded to follow. It continued up the hill turning slightly to about a due ~~westerly~~ direction or possibly a little north of ~~west~~ west, over several small spurs, 50 ft below the top on the north side of the hill and here the trail was lost again. At present it appears to me that the line of flight gradually disperses and is less compact than it is at the entrance or near the entrance of the cave. I hope that further observation will clear this point up. Took one individual from line (it is to be prepared tomorrow)

July 2 Hollandia, Netherlands New Guinea

This evening I again took up the trail where I lost it yesterday. The first bat was seen on the north side of the hill 100 ft. below the top at 6:03. The flight was slow and irregular in regards to the number and rate of travel. They were spread out over 100 ft of hill slope and as they flew along they seemed to occasionally feed. I followed the trail for 250 yd to the west. The difference in the ~~line~~ flight at the entrance or near the entrance and 3/4 kilometer distant is: They are flying higher (60 ft) line is broader (100-150 ft), and there appears to be less individuals in the line. This difference may be due to one or all of the following factors: higher jungle, less undergrowth, or decrease in light intensity. This evening I obtained another bat from the line of flight (to be prepared tomorrow). It is one of the common species

Hipposideros

Field identification indicates that there are two species in the cave. The least common appears at the exit of the cave with the earlier of the more numerous one. This is apparent from our collecting at various times during the evening at this exit. It is quite possible now that the least common leaves the fire immediately or near the first of the line of flight thus leaving the more common to proceed on alone. This may account for the decrease in number of bat along the line. Took another individual from the line of flight. (#109)

July 4 Hollandia Netherlands New Guinea

Yesterday evening one of my Dyaks found a single specimen in the grass. It was fluttering in a grassy patch near the mouth of the river ½ kilometer north east of Hollandia. I cannot explain satisfactorily what it was doing in the grass unless it was driven there by our lights and a gun shot which must have passed within a few (30 or 40) feet of it. #4112.

July 15 Hollandia Netherlands New Guinea

Yesterday afternoon the 2 Malay monitors and I went into the bat cave 1 km SW of Hollandia. It is the same one near Van Sauken that I have previously visited many times. We obtained 13 bats, 4 sp. Hipposideros and 1 sp. Rhinolophus. We went into the cave about 3/4 km., about 1/2 again as far as Archbold and I had previously gone in. The small room where we had previously found bats was vacant but near the end of our journey there were large roosts. Here bats hung in numbers each segregated from the other. In the cave I did not differentiate the different species. The manner of obtaining the bat was by knocking them down with sticks as they flew past

1938
1939

us. This was not entirely satisfactory for many were out of reach or too quick for us.
In the evening I sent my two Papuan collectors to the mouth of the cave for bats. They were to knock them down as they came out. They returned to camp with three bats 2 sp. Hipposideros and 1 Rhinolophus. They did not obtain either of the smaller Hipposideros that had previously been taken at the cave entrance and along the line of flight.

July 16 Hollandia, Netherlands New Guinea.
Six individuals prepared today were brought in by Tabati boys who said they had taken them in a cave about their compong (village).

July 17 Hollandia, Netherlands New Guinea.
Papuans brought in a can containing 75 or more of this genera (2 sp.) of bats and one Emballonura. According to them they were collected "on the top" and at the same time pointed in the direction of the limestone hills south west of Hollandia.

July 18 Hollandia, Netherlands New Guinea. collected
Specimen # 4475 to and including # 4502 were brought in yesterday by a Papuan. (See above notes). # 4503 to and including # 4517 were collected by Papuan collectors at the mouth of the bat cave.

Apr. 13 Bernhard Camp Idenburg R., Netherlands New Guinea 75 m.
8 individuals shot out of a hollow log which was lying on the ground. This log was some 3 feet through with a hole of 2 to 1½ ft. diameter. It was a relatively dry semi-dark resting place. Had been used for long time. All of the individuals were obtained and on examining them it seems as though they are ♀s with subadult young. (?). At the entrance of the log lodge was a viper-like snake. Examined stomach of snake but it was empty.

Wm. D. Richardson
1939

Hipposideros

Apr. 20 Bernhard Camp, Idenburg R., Netherlands New Guinea 75 m.
1 shot by collecting boy. According to him it was hanging singly under a log.

Apr. 24 4 shot. Two by Rand collecting boy. Said to have been found under a leaf in the forest. Two shot in general godown. They were hanging to the atap roof.

Hydromys asper

W.B.R.

Catalog No.	Original No.	Collector	Locality Netherlands New Guinea	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
151462	6158	Archbold + Richardson	Bele R., 18 Km. N Lake Habbema 2200	Nov. 26, 1938	a. ♂	530	277	54	11	253
151465	6206	"	" "	Nov. 27, "	a. ♂	525	265	53	12	260
151460	6108	"	" "	" 25, "	a. ♂	513	280	55	10	233
151373	5838	"	" "	" 19, "	a. ♂	513	279	52	13	234
151461	6146	"	" "	" 26 "	a. ♂	503	268	59	11	235
151381	5258	"	9 Km. NE Lake Habbema 2700	Oct. 27, "	a. ♂	493	268	55	12	225
151467	7042	"	Bele R. 18 Km. N Lake Habbema 2200	Dec. 2, "	J ♂	457	240	51	12	217
151459	5924	"	" "	Nov. 21, "	S ♂	442	288	58	10	154
110075	5254	"	9 Km. NE Lake Habbema 2800	Oct. 27, "	J. ♂	441	230	52	11	211
151372	5697	"	Bele R. 18 Km. N Lake Habbema 2200	Nov. 17, "	a. ♀	542	285	54	10	257
151468	7098	"	" "	Dec 3, "	a. ♀	520	273	52	11	247
151380	5218	"	9 Km. NE Lake Habbema 2800	Oct. 24, "	a. ♀	510	270	52	12	240
151466	6244	"	Bele R. 18 Km. N Lake Habbema 2200	Nov. 29, "	S. ♀	500	270	52	11	230
151463	6159	"	" "	" 26, "	S. ♀	458	237	49	11	221
152070	7516	"	6 Km. SW Bernhard Camp, Idenburg R. 1200	Feb. 18, 1939	a. ♂	496	263	52	12	233
152071	7598	measured by collector "	10 Km. SW " " " 1500	Feb. 28, 1939	a. ♀	530	285	50	13	245

Hydromys asper

W.B.R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal Constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth
151462	48.2	47.3	40.2	26.6	8.5	20.9	15.6	12.6	12.8	26.7	23.2	5.0	3.0	13.6	9.5	3.6
151465	49.2	48.3	40.5	27.1	8.1	21.3	15.7	12.3	13.2	27.1	23.4	5.8	3.1	13.7	9.4	3.6
151460	48.0	47.2	39.3	27.6	8.3	21.6	15.3	12.6	12.8	26.0	22.4	5.0	2.8	13.0	9.1	3.3
151373	48.0	472	39.8	26.9	9.0	22.1	14.4	11.9	12.7	26.8	232	4.8	2.0	13.4	9.4	3.8
151461	46.9	46.0	38.3	26.2	8.8	21.3	14.5	12.5	11.8	25.8	22.0	4.2	2.4	12.8	9.5	3.5
151381	47.8	47.0	39.1	26.0	8.2	21.6	14.0	11.9	12.8	26.3	22.5	5.4	3.2	13.2	9.0	3.5
151467	—	—	—	—	9.1	—	14.5	11.7	11.6	25.0	21.4	4.7	2.7	12.9	9.8	3.7
151459	49.2	48.7	41.2	27.8	8.8	22.0	15.8	13.5	13.3	27.4	23.6	4.9	3.1	13.6	9.4	3.5
110075	43.5	42.7	35.7	24.9	9.4	20.5	13.1	11.6	11.3	24.1	20.5	4.1	2.5	12.7	9.1	3.4
151372	47.5	47.4	39.8	—	7.6	21.6	14.3	11.7	12.7	26.7	22.8	5.2	2.6	12.3	8.8	3.4
151468	47.8	46.3	38.8	27.0	8.9	21.4	13.9	12.5	11.9	25.7	22.0	4.9	2.6	13.0	9.1	3.5
151380	48.4	48.2	40.7	26.6	8.0	21.7	14.4	11.4	13.5	27.0	23.5	5.0	2.4	12.7	9.0	3.1
151466	45.7	44.6	40.5	25.6	8.4	20.5	14.1	11.9	12.2	25.3	21.9	5.1	2.7	12.4	9.0	3.5
151463	44.7	43.6	36.8	25.2	8.5	20.6	14.3	11.0	11.0	24.9	21.5	4.6	2.5	12.5	9.1	3.5
152070	48.2	47.2	39.2	26.8	8.9	21.6	14.5	12.9	12.8	25.9	22.1	4.9	2.5	13.1	9.4	3.4
152071	48.8	48.4	41.4	26.4	8.5	21.8	14.0	12.8	13.6	26.9	23.3	5.6	3.1	13.1	9.5	3.4

Hydromys asper

W.B.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
103256	548	G. Stein	Weyland geb.	Sept. 9, 1931	s ♂	472	250	54	16	222
103255	545	"	"	" 2, "	a. ♀	489	241	48	15	248
101950	172	F. Shaw Mayer	The Gebroeders, Weyland Range 6000 ft.	Aug. 16, 1930	j. ♀	465	258	48	15	207
101951	220	"	" "	Aug 22, "	a. ♀	431	231	48	16	200
108468	3762	Archbold + Tate	Kagi. (Leili creek), Kokoda Rd., Papua, C.D. 1300	Mar. 11, 1937	a ♂	525	290	53	13	235
108469	3763	"	" "	"	a ♀	523	285	51	12	238

Hydromys asper

W.D.R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal Constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth
103256	45.0	43.6	36.6	25.5	8.0	20.4	13.6	11.8	11.1	—	—	4.5	2.5	12.8	9.8	3.8
103255	46.4	44.5	37.6	26.7	8.7	21.0	13.6	11.8	12.1	25.0	21.8	4.9	2.7	13.6	9.7	3.4
101950	44.6	43.4	36.4	25.3	8.8	20.2	13.3	11.7	10.9	24.5	21.0	4.1	2.3	12.0	9.2	3.6
101951	44.7	44.3	37.7	26.6	9.5	20.8	13.5	12.5	11.8	24.4	21.1	4.6	2.6	—	9.4	3.6
108468	48.9	47.9	39.4	28.0	8.4	22.7	15.4	13.4	12.7	27.2	22.8	5.0	3.1	13.7	9.8	3.5
108469	49.6	48.8	41.0	28.4	7.9	23.0	15.4	12.8	13.2	27.6	23.7	4.4	2.9	13.6	9.8	3.5

Hydromys chrysogaster

W.B.R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal Constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth
105201	56.5	56.3	46.8	27.1	7.3	22.1	18.8	11.2	16.1	31.3	26.0	6.2	4.0	—	8.9	2.9
105776	50.3	50.0	40.8	24.8	6.9	20.2	16.4	10.0	13.4	27.2	22.3	5.6	3.5	10.4	7.6	2.8
105774	—	48.0	39.7	24.0	6.8	—	15.5	9.2	13.3	26.4	22.1	5.5	2.8	10.5	8.1	2.8
105773	—	—	—	24.1	6.9	—	15.4	9.6	13.7	26.8	22.3	6.0	3.3	11.0	8.0	2.9
105772	—	—	—	21.5	7.4	—	—	8.1	12.0	24.4	20.4	5.2	3.0	10.2	7.8	2.8
105775	—	—	—	—	—	19.0	—	—	—	—	—	—	—	—	7.8	2.8
105777	46.1	46.0	38.6	22.5	7.4	18.2	—	8.4	12.5	25.5	21.2	5.2	2.8	10.2	7.8	2.7
105779	48.9	48.5	40.4	—	6.6	19.4	16.1	9.7	13.7	26.5	22.0	5.5	3.3	10.8	7.8	2.8
105778	44.8	44.1	37.0	21.7	7.5	18.0	14.1	8.8	12.2	24.1	20.3	5.2	3.2	10.2	7.5	2.7
105780	44.0	43.2	36.0	21.6	6.8	18.5	14.0	8.4	12.0	23.7	20.0	4.8	2.7	10.0	7.5	2.8
105781	39.8	39.4	—	19.5	6.9	17.1	12.9	8.0	10.4	22.0	18.7	4.8	2.9	—	7.7	2.7
105782	45.0	44.2	36.7	22.8	7.2	18.5	14.9	8.8	12.1	24.2	20.1	5.0	2.7	10.8	7.7	2.7

Hydromys chrysogaster

W.B.R.

Catalog No.	Original No.	Collector	Locality Papua W.D.	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
105201	2498	Archbold + Tate	1 mi. below mouth Black R. Upper Fly 100	July 25, 1936	a. ♂	553	300	61	13	253
105776	2751	"	Lake Daviumbu, Middle Fly —	Sept. 12, "	s ♂	480	235	54	—	245
105774	2631	"	"	Aug. 28, "	a. ♂	465	225	50	—	240
105773	2627	"	"	Aug 27, "	s ♂	435	200	47	—	235
105772	2611	"	"	Aug 26, "	J. ♂	392	191	47	—	201
105775	2748	"	"	Sept. 12, "	s ♀	460	225	52	—	235
105777	27~~4~~5	"	"	Sept. 16, "	s ♀	428	212	50	14	216
105779	3054	"	N. bank opp. Sturt Isl., Fly	Oct. 24, "	a. ♂	450	230	54	14	220
105778	2944	"	"	Oct. 9, "	s ♀	405	187	44		218
105780	3062	"	"	Oct. 25, "	s ♀	405	199	47	15	206
105781	3191	"	East bank, Gaima, Fly	Nov. 20, "	J ♀	308	152	39	13.5	156
105782	3273	"	Wasi Kussa: Tarara	Dec. 12, "	s ♂	415	205	47	13	210

Hydromys chrysogaster

W.B.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
108470	3617	Archbold - Tate	Baruari rest house, Astrolabe Range, Papua C.D. 520	Feb. 18 1937	s ♂	480	235	52	15	245
152072	7631	Archbold - Richardson	4 km. SW Bernhard Camp, Idenburg R. 850	Mar. 8, 1939	a. ♂	510	254	54	14	256
152073	7725	"	" "	Mar 24, 1939.	a. ♂	505	245	55	15	260
152076	7809	"	" "	Apr. 6, "	a. ♂	477	234	53	15	243
152074	7782	"	" "	" 2, "	a. ♂	467	227	54	13	240
152075	7794	"	" "	" 3, "	s. ♀	466	222	49	—	244
152078	7970	"	Idenburg River, Bernhard Camp 75	" 30, "	a. ♂	480	228	54	16	252
152077	7945	"	" " 50	" 27, "	c. ♂	408	160	47	13	248
109503	7266	"	Hollandia 0	Dec. 27, 1938	a. ?	—	—	—	—	—

Hydromys chrysogaster

W.B.R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal Constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth
108470	49.9	49.3	41.2	25.0	6.7	20.0	17.2	9.9	14.2	27.9	23.0	5.3	3.5	11.2	7.6	2.7
152072	—	—	—	24.0	7.0	19.8	—	—	—	—	—	—	—	11.4	8.3	2.9
152073	49.3	49.2	40.9	24.0	7.1	20.1	15.3	9.5	13.7	27.8	23.1	4.7	3.4	11.2	8.2	2.9
152076	49.0	48.8	40.5	23.8	6.7	19.5	15.5	9.6	13.5	27.0	22.5	5.1	3.3	—	—	3.0
152074	—	48.2	39.6	23.4	7.0	—	14.8	9.2	13.0	26.6	21.9	4.8	3.0	10.7	8.2	2.9
152075	—	47.4	—	23.4	7.4	19.2	14.7	9.2	12.4	26.3	21.8	4.7	2.9	10.6	8.4	2.9
152078	49.9	50.5	41.9	23.8	7.2	19.6	15.4	10.0	14.3	28.1	23.4	5.4	3.2	11.5	8.0	2.9
152077																
109503	—	—	—	25.0	6.7	20.2	17.2	10.7	15.3	30.7	25.4	5.8	3.7	11.5	8.8	3.0

Neohydromys

Dark color phase ♂ and ♀

W.B.R.

Catalog No.	Original No.	Collector	Locality Netherlands New Guinea	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
110060	4752	Archbold & Richardson	Lake Habbema 3225	Aug 20, 1938	a. ♂	337	182	37	9	155
110061	4753	"	" "	" 20, "	s.a. ♂	331	185	37	8	146
110078	5071	Measured by collector "	7 Km. NE Wilhelmina top 3560	Sept. 24, "	a. ♂	329	167	36	6	162
110051	4701	"	Lake Habbema 3225	Aug. 14 "	s.a. ♂	322	166	36	8	156
110071	4835	"	" "	" 27, "	a ♂	322	175	37	8	147
110073	4844	"	" "	" 28, "	s.a ♂	317	171	36	8	146
110069	4824	"	" "	" 25 "	s.a. ♂	300	156	35	8	144
110062	4765	"	" "	" 21 "	s.a ♂	295	149	33	10	146
110068	4814	"	" "	" 24 "	s.a ♂	294	145	36	8	149
110076	4858	"	7 Km. NE Wilhelmina top 3600	Sept. 8, "	a. ♀	313	160	35	7	153
110072	4836	"	Lake Habbema 3225	Aug. 27, "	a. ♀	305	162	35	8	143
110077	5055	Measured by collector "	7 Km. NE Wilhelmina top 3560	Sept. 23, "	s.a. ♀	290	154	35	8	136
110079	5085	Measured by collector "	" "	" 27, "	a. ♀	274	130	35	8	144
110048	4585	"	Lake Habbema 3225	Aug 4, "	Juv. ♀	209	100	30	7	109
110066	4798	"	" "	23 "	Juv. ♀	190	90	27	6	100

Neohydromys

Dark cloud phase ♂ and ♀.

W.B.R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina, length	Incisive foramina, breadth	Greatest width outside molars	Molar row length	Molar row breadth
110060	35.5	35.0	28.7	17.5	5.5	15.4	11.7	6.5	9.3	18.3	15.3	4.4	2.5	7.8	5.4	1.9
110061	34.2	34.2	28.2	17.2	5.7	—	11.0	6.1	8.6	18.0	14.9	3.8	2.4	7.5	5.2	1.8
110078	35.1	34.5	—	—	5.3	—	—	6.1	9.1	18.1	14.9	4.2	2.3	8.1	5.1	1.9
110051	34.4	34.0	28.0	16.9	5.6	14.8	11.7	6.1	8.7	17.5	14.6	4.2	2.4	7.5	5.3	1.8
110071	—	—	—	—	5.5	—	11.7	5.8	9.0	18.2	15.4	4.0	2.3	7.5	5.2	1.8
110073	—	—	—	17.3	5.5	15.0	—	—	—	—	—	—	—	7.0	5.3	1.9
110069	—	—	—	16.9	5.6	—	10.8	6.0	8.1	17.1	14.1	4.0	2.4	7.2	5.2	2.0
110062	—	—	—	16.3	5.8	—	10.0	—	8.0	16.6	14.0	3.8	—	—	5.3	1.9
110068	—	—	—	16.9	5.4	—	11.5	5.6	8.8	17.5	14.3	4.1	2.1	7.4	5.1	1.7
110076	34.0	33.3	27.7	17.0	5.3	15.3	11.3	5.8	8.9	17.5	14.7	4.0	2.3	8.1	5.3	1.8
110072	34.2	33.0	26.6	16.9	5.5	14.8	11.8	5.8	8.5	17.1	14.2	4.2	2.3	7.3	4.9	1.7
110077	33.9	33.3	27.4	17.4	5.3	15.3	—	—	8.2	17.3	14.2	4.0	—	7.6	5.2	1.8
110079	34.7	34.7	28.7	17.5	5.3	15.4	11.9	6.2	—	18.0	15.0	4.5	2.4	—	—	—
110048	30.0	28.2	22.9	—	5.7	—	8.9	5.3	7.2	15.3	13.0	3.4	2.0	7.0	5.0	1.8
110066	27.7	26.2	21.6	—	5.4	12.8	8.2	5.3	6.3	13.3	11.1	2.9	2.0	6.8	5.0	1.8

Neohydromys

Light colored phase ♂ and ♀

W.B.R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal Constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina bredth	Greatest width outside molars	Molar row length	Molar row bredth
110070	—	—	28.5	17.3	5.5	15.1	—	—	9.3	—	15.5	4.4	2.2	7.8	5.1	1.8
110050	35.0	34.5	~~31.3~~ 28.4	18.4	5.8	15.5	11.5	6.7	9.0	18.0	14.9	4.1	2.4	8.0	5.3	1.8
110067	35.2	34.5	28.4	17.6	5.6	15.3	11.4	6.4	8.9	18.3	15.1	4.4	2.3	7.8	5.1	1.8
110054	—	—	—	—	5.4	—	11.2	~~6.1~~	8.8	—	—	4.0	—	—	5.4	1.9
110056	34.1	33.9	27.9	17.4	5.3	15.2	11.3	6.5	8.8	17.6	14.7	4.0	2.1	7.7	5.3	1.9
110055	34.3	33.8	27.5	18.1	5.6	14.8	11.7	6.1	8.8	17.6	14.7	4.2	2.2	7.7	5.3	1.9
110074	34.5	34.1	28.3	17.7	5.4	15.1	11.6	6.4	9.1	17.6	14.8	4.1	2.3	7.5	5.2	1.8
110052	33.7	33.2	27.5	16.9	5.5	14.8	11.1	6.2	8.6	17.1	14.5	4.0	—	7.6	5.1	1.8
110057	—	—	—	—	5.6	—	10.7	5.7	8.0	16.4	13.7	3.8	2.2	7.4	5.2	1.8
110053	35.3	34.8	28.7	18.4	5.8	15.5	11.4	6.3	9.3	18.3	15.3	4.5	2.3	8.0	5.2	1.9
110049	34.6	34.3	28.2	17.1	5.6	14.9	11.4	6.4	8.8	17.8	14.9	4.0	2.1	7.8	5.3	1.8
110058	—	33.9	28.4	—	5.3	15.0	11.6	6.1	8.8	17.5	15.0	3.8	2.4	—	5.0	1.8
110059	33.8	33.4	27.5	—	5.4	14.8	11.1	6.2	8.6	17.5	14.8	4.2	2.4	—	5.3	1.9
110064	—	—	—	16.5	5.5	—	10.2	6.0	8.2	17.0	14.0	4.3	2.3	7.5	5.4	1.9
110065	—	—	—	—	—	—	10.7	—	—	—	—	—	—	—	5.3	1.9
110063	—	—	—	15.7	5.5	—	10.0	5.9	8.0	16.1	13.6	39	—	—	5.1	1.7

Neohydromys

Light color phase ♂ and ♀

W.B.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
			Netherlands New Guinea							
110070	4834	Archbold + Richardson	Lake Habbema 3225	Aug 27, 1938	a. ♂	345	184	37	10	161
110050	4682	"	" "	" 12, "	a. ♂	341	187	39	9	154
110067	4813	"	" "	" 24, "	a. ♂	340	187	37	9	153
110054	4721	"	" "	" 18, "	a. ♂	328	173	37	8	155
110056	4723	"	" "	" 18, "	a. ♂	327	174	36	9	153
110055	4722	"	" "	" 18, "	a. ♂	317	170	36	9	147
110074	4847	"	" "	" 29, "	a. ♂	312	160	35	9	152
110052	4702	"	" "	" 14, "	s.a. ♂	305	161	37	9	144
110057	4724	"	" "	" 18, "	s.a. ♂	285	146	34	8	139
110053	4713	"	" "	" 14, "	a. ♀	350	190	38	9	160
110049	4592	"	" "	" 5, "	a. ♀	337	184	36	9	153
110058	4725	"	" "	" 18, "	a ♀	316	164	35	8	152
110059	4726	"	" "	" 18, "	a ♀	308	169	35	8	139
110064	4786	"	" "	" 22, "	s.a. ♀	295	161	35	8	134
110065	4787	"	" "	" 23, "	s.a. ♀	277	146	34	8	132
110063	4766	"	" "	" 21, "	s.a. ♀	273	143	33	8	130

Pseudohydromys

W.B.R.

Catalog No.	Original No.	Collector	Locality Netherlands New Guinea	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body	
150487	5113	Archbold - Richardson	9km NE Lake Habbema 2800m	Oct. 12, 1938	a. ♂	257	135	30	17		
150503	5130	"	" "	" 13, "	a. ♂	252	134	29	18		
150511	5144	"	" "	" 15, "	a. ♂	248	131	30	17		
150512	5143	"	" "	" 15, "	a. ♂	261	135	31	17		
150521	5152	"	" "	" 16, "	a. ♂	256	132	30	17		
150524	5162	"	" "	" 17 "	a. ♂	240	123	29	16		
150534	5176	"	" "	" 18 "	a. ♂	250	130	31	17		
150536	5178	"	" "	" 18 "	a. ♂	249	130	30	18		
150533	5175	"	" "	" 18 "	a. ♂	246	127	30	17		
150538	5182	"	" "	" 19 "	a. ♂	250	131	30	18		
150542	5188	"	" "	" 20 "	a. ♂	245	122	29	17		
150544	5191	"	" "	" 21 "	a. ♂	249	139	30	17		
150560	5209	"	" "	" 22 "	a. ♂	250	128	30	18		
150563	5215	"	" "	" 23 "	a. ♂	250	128	30	18		
150566	5221	"	" "	" 24 "	a. ♂	245	124	31	16		
150578	5241	"	" "	" 26 "	a. ♂	237	120	28	15		
150579	5242	"	" "	" 26 "	a. ♂	242	124	30	18		
150577	5240	"	" 2700	" 26 "	a. ♂	250	129	30	17		
150601	5284	"	" 2800	" 30 "	a. ♂	242	120	30	16		
150602	5287	"	" 2700	" 30 "	a. ♂	240	118	29	16		
150603		"	" "	" 30 "	a. ♂	240	129	27	15		

Pseudohydromys

♂ and ♀

W. B. R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal Constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina, length	Incisive foramina, breadth	Greatest width outside molars	Molar row length	Molar row breadth
100326																
110344	—	—	—	—	—	—	8.5	—	8.2	14.1	12.2	2.5	1.5	5.1	2.8	1.0
110366	—	—	—	—	—	—	8.1	—	8.2	13.6	11.8	2.2	1.5	4.7	2.7	1.0
150772	24.9	24.7	20.9	12.0	5.6	10.6	7.9	5.2	7.9	13.2	11.3	2.3	1.7	5.0	2.8	1.0
152079	—	—	—	—	4.5	—	6.4	4.5	5.2	—	—	2.6	1.4	4.3	2.5	0.8
110391	—	—	—	12.0	5.4	—	8.6	5.1	7.9	13.8	11.8	2.1	1.6	4.8	2.8	1.0

Pseudohydromys

♂ and ♀

W.D.R.

Catalog No.	Original No.	Collector	Locality Netherlands New Guinea	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
110326	5034	Measured by collector Archbild Richardson	7 km. NE Wilhelmina top 3560	Sept. 19, 1938	a. ♂	196	91	19	10	105
110344	4857	"	" 3600	" 8, "	a. ♂	205	90	21	11	115
110366	4880	"	" 3560	" 11, "	a. ♂	194	87	21	10	107
150772	4635	"	Lake Habbema 3225	Aug. 8, "	a. ♂	191	90	20	8	101
152099	7677	"	4 km. SW Bernhard Camp, Idenburg R. 850	Mar. 16, 1939	s.a. ♂	172	92	20	8	80
110391	4908	"	7 km. NE Wilhelmina top 3560	Sept. 14, 1938	a. ♀	197	95	21	9	102

Pseudohydromys

W.B.R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest.	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth			
150487	32.6	31.6	25.5	15.1	5.8	12.8	12.5	6.1	7.6	17.0	13.2	4.7	2.4	6.7	4.5	1.7			
150503	31.6	30.3	24.3	15.0	6.0	—	12.0	—	7.3	16.2	12.5	4.6	2.4	6.9	4.6	1.7			
150511	32.5	31.3	—	15.1	5.9	12.8	12.7	—	7.7	16.9	13.0	4.8	2.3	6.9	4.8	1.8			
150512	32.5	31.0	25.1	15.1	5.8	—	12.3	5.9	7.8	16.5	13.0	4.9	2.3	6.7	4.7	1.8			
150521	—	—	—	14.8	5.8	—	12.4	6.1	7.9	16.5	12.8	4.7	2.4	6.7	4.6	1.7			
150524	31.3	30.2	24.4	15.0	5.9	12.2	12.0	5.6	7.4	16.2	12.6	4.8	2.4	6.8	4.7	1.7			
150534	32.2	31.0	—	—	5.6	—	12.5	6.1	7.7	16.5	12.5	4.8	2.5	7.1	4.7	1.7			
150536	31.8	30.5	24.5	14.5	5.8	12.6	11.7	6.0	7.8	16.3	12.8	4.7	2.5	6.8	4.5	1.7			
150533	32.0	30.7	24.9	—	6.0	12.9	12.5	6.2	7.9	16.7	12.8	5.0	2.5	7.1	4.6	1.7			
150538	32.0	30.3	25.0	15.1	5.9	—	12.5	—	7.8	16.5	13.0	5.0	2.4	6.6	4.6	1.7			
150542	31.3	29.8	—	14.8	5.8	—	12.0	—	7.4	16.0	12.4	4.7	2.4	6.8	4.7	1.8			
150544	—	—	—	14.7	5.7	12.4	12.5	6.1	7.7	16.8	13.5	5.1	2.4	7.0	4.7	1.7			
150560	—	—	—	—	—	—	12.3	6.0	7.9	16.8	13.2	5.0	2.5	6.8	4.6	1.7			
150563	—	—	—	—	5.9	—	12.0	—	7.9	16.7	13.1	4.9	2.3	6.7	4.4	1.7			
150566	32.4	31.2	25.3	—	5.9	13.0	12.1	—	7.9	16.7	12.9	4.9	2.4	6.8	4.6	1.7			
150578	31.6	30.2	24.5	—	5.9	—	11.9	5.9	7.6	16.2	12.9	4.6	2.4	6.6	4.7	1.7			
150579	Missing																		
150577	32.0	31.6	25.0	15.2	6.0	13.0	12.5	6.3	7.7	16.5	13.0	4.8	2.5	7.0	4.8	1.8			
150601	—	—	—	—	5.9	—	12.5	—	7.9	16.9	13.2	5.1	2.5	6.6	4.7	1.8			
150602	31.8	30.5	24.8	14.5	5.9	12.6	12.5	—	7.6	16.5	12.7	5.0	—	6.8	4.7	1.7			
150603	32.0	31.0	25.0	—	5.7	12.4	12.6	6.0	7.8	16.7	13.0	4.8	—	6.8	4.7	1.8			

Pseudohydromys

W.B.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body	
			Netherlands New Guinea								
150610	5303	Archbold + Richardson	9 Km NE Lake Habbema 2700m.	Oct. 31. 1938	a ♂	247	130	30	16		
150612	5309	"	" "	Nov. 1 "	a. ♂	246	124	30	16		
150613	5310	"	" 2800	" 1 "	a. ♂	247	127	29	18		
150620	5326	"	" 2700	" 2 "	a. ♂	244	129	30	18		
150647	5355	"	" "	" 4 "	a. ♂	246	128	30	16		
150486	5112	"	" 2800	Oct. 12, 1938.	s.a. ♂	245	124	30	17		
150532	5174	"	" "	Oct. 18, "	s.a. ♂	245	125	29	17		

Pseudohydromys

W.D.R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Rostral breadth greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth
150610	32.4	30.8	25.0	14.7	5.7	13.3	12.6	6.3	7.7	—	—	4.6	—	6.7	4.7	1.8
150612	32.9	31.5	25.5	15.1	6.0	—	12.7	6.1	7.8	17.1	13.2	5.0	2.3	7.0	4.9	1.8
150613	32.2	31.0	24.9	15.1	5.9	—	12.2	6.2	7.8	16.4	12.8	4.9	—	—	4.5	1.7
150620	32.1	30.9	25.1	14.8	5.9	—	12.6	6.1	7.5	16.8	13.1	4.8	—	6.8	4.6	1.7
150647	32.0	30.5	—	—	5.9	12.6	11.6	5.9	7.8	—	—	4.7	2.3	6.7	4.8	1.7
150486	—	—	—	—	—	—	11.7	5.8	7.2	15.9	12.1	4.9	2.5	6.5	4.7	1.7
150532	—	—	—	—	6.1	—	12.1	6.0	7.2	16.0	12.4	4.6	2.4	6.6	4.8	1.8

Pseudohydromys

W.B.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body	
			Netherlands New Guinea								
150504	5131	Archbold - Richardson	9 km. NE Lake Habbema 2800m.	Oct. 13, 1938	a. ♀	253	133	30	18		
150516	5145	"	" "	" 15, "	a. ♀	254	134	30	18		
150522	5153	"	" "	" 16, "	a. ♀	250	129	30	17		
150545	5192	"	" "	" 21, "	a. ♀	255	134	29	17		
150546	5193	"	" "	" 21, "	a. ♀	247	134	30	17		
150581	5244	"	" 2700	" 26, "	a. ♀	246	130	28	16		
150598	5276	"	" 2800	" 29, "	a. ♀	242	124	29	16		
150608	5300	"	" "	" 31, "	a. ♀	239	125	30	15		
150611	5304	"	" 2700	Oct. 31, "	a. ♀	256	136	29	16		
150641	5349	"	" 2800	Nov. 3, "	a. ♀	251	132	30	16		
150642	5350	"	" 2700	" 3, "	a. ♀	236	122	28	16		
150644	5352	"	" 2800	" 4, "	a ♀	249	126	28	17		
150651	5359	"	" "	" 5, "	a. ♀	246	125	28	15		
150567	5222	"	" 2800	Oct. 24, 1938	s.a. ♀	225	115	29	18		
150580	5243	"	" 2700	" 26, "	s.a ♀	230	120	29	17		

Pseudohydromys

W.D.R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest.	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth
150504	31.6	—	24.7	15.2	6.1	—	12.4	—	7.0	—	12.8	4.7	2.3	—	—	—
150516	31.6	30.4	24.5	14.9	6.0	—	12.2	6.0	7.5	16.4	12.6	4.8	2.5	6.9	4.7	1.7
150522	33.0	31.6	25.8	15.7	5.9	—	12.7	6.1	7.9	17.0	13.1	5.2	2.5	6.9	4.7	1.8
150545	32.1	30.7	24.7	14.9	5.8	12.5	12.6	6.0	7.7	16.4	12.5	5.0	2.4	6.9	4.6	1.8
150546	31.8	30.2	24.5	15.2	6.0	12.7	11.9	—	7.4	16.4	12.7	4.7	2.5	6.7	4.8	1.8
150581	—	30.0	—	—	5.9	—	11.6	6.0	7.4	16.0	12.2	4.6	2.1	6.7	4.4	1.7
150598	Missing															
150608	32.0	30.5	24.8	15.1	6.1	—	11.7	6.1	7.6	16.5	12.7	4.9	2.7	7.1	4.9	1.7
150611	32.5	31.3	25.1	14.4	5.8	—	12.1	5.9	7.7	16.8	13.0	4.7	2.2	6.7	4.8	1.8
150641	32.2	30.5	24.7	14.8	6.0	12.7	12.4	—	7.4	16.4	12.5	4.5	2.2	6.8	4.8	1.8
150642	~~31.9~~	~~30.5~~	~~25.0~~	—	5.9	12.3	12.0	—	—	—	—	—	—	6.7	4.7	1.7
150644	31.5	30.0	24.3	—	5.9	12.4	12.0	6.0	7.5	16.0	12.5	4.7	2.3	6.7	4.5	1.7
150651	32.4	31.0	25.1	—	6.0	12.7	12.8	—	7.7	17.0	13.1	4.7	2.4	6.7	4.8	1.7
150567	29.7	28.4	22.3	—	5.7	~~11.0~~	11.0	—	6.9	15.2	11.9	4.6	—	6.8	4.7	1.7
150580	30.2	29.0	23.6	14.2	5.8	12.4	11.3	—	7.1	15.7	12.4	4.5	2.1	6.4	4.6	1.8

Pseudohydromys

W.B.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body
151058	5540	Archbold - Richardson	Bele R., 18 km. N Lake Habbema 2200 m.	Nov. 13, 1938	a. ♀	252	127	19	15	
151309	7045	"	" 2200	Dec. 2 "	a ♀	252	130	29	19	
151305	7035	"	" "	" 1 "	s.a ♀	240	131	19	16	
151331	7100	"	" "	" 3 "	s.a. ♀	229	119	28	16	
151332	7101	"	" "	" 3 "	s.a ♀	248	129	29	16	

Pseudohydromys

W.B.R.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal Constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest.	Diastema	Palatal length	Palatilar Length	Incisive foramina length	Incisive Foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth			
151058	31.7	30.9	24.9	14.9	5.9	12.4	12.2	5.9	7.5	16.7	12.8	4.6	2.3	6.7	4.7	1.8			
151309	32.1	30.9	24.8	14.6	5.7	12.5	12.6	5.7	7.9	17.0	13.2	5.0	2.6	6.8	4.6	1.7			
151305	—	—	—	—	5.6	—	11.3	6.7	7.2	15.9	12.3	4.7	2.3	6.4	4.5	1.7			
151331	30.5	29.1	23.5	—	5.9	—	11.1	—	—	—	—	—	—	—	4.6	1.7			
151332	31.2	29.8	24.2	14.8	5.9	12.5	11.3	—	7.3	15.9	12.5	4.7	2.2	6.5	4.5	1.7			

Pseudohydromys

W.D.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and Body
			Netherlands New Guinea							
152088	7293	Archbold + Richardson	15 Km SW Bernhard Camp Idenburg R. 1800m	Jan. 11, 1939	a. ♂	255	134	31	14	121
152089	7294	"	" "	" 11 "	a. ♂	255	139	30	15	116
152090	7295	"	" "	" 11 "	a ♂	251	131	30	14	120
152092	7312	"	" "	" 13 "	a ♂	258	135	31	16	123
152094	7316	"	" "	" 14 "	a. ♂	249	133	29	16	116
152097	7353	"	" "	" 17 "	a. ♂	244	131	31	15	113
152104	7400	"	" "	" 23 "	a. ♂	246	134	29	15	112
152105	7405	"	" "	" 25 "	a ♂	245	127	30	15	118
152106	7409	"	" "	" 26 "	a. ♂	255	136	30	15	119
152110	7428	"	" "	" 29 "	a ♂	246	126	30	17	118
152100	7386	"	" "	" 20 "	sa. ♂	250	140	31	16	110
152103	7398	"	" "	" 22 "	sa. ♂	250	131	31	15	119

Pseudohydrumys

WBR.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal Constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth
152088	31.7	30.5	24.3	15.6	5.5	12.9	11.8	—	7.6	17.6	13.2	4.5	2.2	7.0	4.5	1.7
152089	31.6	30.0	24.0	14.5	5.5	12.6	11.7	5.5	7.5	16.9	13.0	4.4	2.2	6.7	4.7	1.7
152090	31.9	30.7	24.4	—	5.5	—	11.4	—	7.6	17.2	13.0	4.3	2.1	6.6	4.8	1.7
152092	32.7	31.4	25.0	—	5.7	12.7	11.7	—	8.0	17.3	13.5	4.6	2.3	6.9	4.5	1.7
152094	32.3	307	24.5	—	5.8	12.5	11.8	—	7.9	17.1	13.1	4.5	2.0	6.9	4.5	1.7
152097	32.6	31.0	24.9	14.9	5.7	12.7	11.8	5.7	8.0	17.0	13.1	4.6	2.5	6.8	4.5	1.6
152104	31.3	30.0	24.0	—	5.6	12.5	11.1	5.8	7.7	16.6	12.7	4.2	2.1	6.5	4.5	1.6
152105	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.5	1.6
152106	32.7	31.0	24.5	14.6	5.8	—	11.4	6.1	7.7	17.4	13.1	4.6	2.2	6.6	4.6	1.7
152110	31.2	29.8	23.6	14.2	5.8	12.3	11.1	5.8	7.4	16.5	12.8	4.1	2.2	6.6	4.8	1.6
152100	—	—	—	14.5	5.8	12.4	11.0	—	—	—	—	—	—	6.3	4.5	1.6
152103	—	—	—	—	5.8	12.4	—	—	—	—	—	—	—	6.1	4.6	1.6

Pseudohydromys

W.B.R.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and Body	
			Netherlands New Guinea								
152091	7296	Archbold - Richardson	15 Km. SW Bernhard Camp Idenburg R. 1800 m.	Jan. 11, 1939	a. ♀	244	130	30	15	114	
152093	7315	"	" "	" 13 "	a. ♀	258	140	31	15	118	
152098	7354	"	" "	" 17 "	a. ♀	250	136	30	15	114	
152102	7392	"	" "	" 21 "	a. ♀	253	135	30	15	118	
152107	7410	"	" "	" 26 "	a. ♀	239	132	29	16	107	
152108	7418	"	" "	" 26 "	a. ♀	258	138	31	16	120	
152109	7419	"	" "	" 26 "	a. ♀	257	133	30	15	124	
152485	skull only 7314	"	" "	" 13 "	a. ♀	169	47	29	15	122	
152096	7318	"	" "	" 14 "	s.a. ♀	240	130	31	15	110	
152095	7317	"	" "	" 14 "	s.a. ♀	~~326~~	124	29	15	~~91~~	
152099	7376	"	" "	" 19 "	s.a. ♀	240	130	30	15	110	
152101	7387	"	" "	" 20 "	s.a. ♀	228	125	30	16	103	

Pseudohydromys

W.D.P.

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth
152091	—	—	—	—	5.7	12.5	11.1	—	—	—	—	—	—	—	4.6	1.7
152093	—	—	—	14.8	5.8	12.8	—	—	—	—	—	4.7	—	6.6	4.6	1.7
152098	31.4	30.1	23.9	15.0	5.7	12.6	11.2	5.7	7.6	16.8	13.0	4.4	2.3	7.0	4.6	1.7
152102	31.9	30.8	24.8	14.9	5.8	12.8	11.7	—	8.1	17.4	13.4	3.9	2.1	—	—	—
152107	31.6	29.9	23.5	14.8	5.8	13.0	11.4	5.8	7.3	16.7	12.8	4.2	2.2	6.7	4.5	1.7
152108	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.8	1.7
152109	—	—	—	—	—	—	11.4	—	7.7	~~4.2~~	—	4.2	—	—	4.5	1.7
152485	32.0	30.8	24.4	15.0	6.2	12.9	11.6	6.0	7.9	17.1	13.0	4.6	2.3	6.7	4.6	1.7
152096	30.8	29.4	23.2	14.4	5.6	12.6	10.9	5.8	7.3	16.4	12.4	4.5	2.0	6.5	4.5	1.7
152095	—	—	—	—	5.7	—	11.0	5.2	—	—	—	—	—	6.2	4.5	1.6
152099	—	—	—	14.1	5.5	—	—	—	—	—	—	—	—	6.5	4.6	1.6
152101	30.0	28.1	22.5	13.5	5.6	12.2	10.0	—	7.0	15.9	12.5	4.3	1.8	6.5	4.7	1.7

Pseudohydromys

WBA.

Catalog No.	Original No.	Collector	Locality	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and Body	
			Netherlands New Guinea								
152112	7468	Archbold + Richardson	18 Km. SW Bernhard Camp Idenburg River. 2150 m.	Feb. 5, 1939.	a. ♂	253	133	31	15	120	
152113	7484	"	" "	" 7 "	a. ♂	255	136	31	15	119	
152114	7487	"	" "	" 8 "	a. ♂	241	125	30	16	116	
152111	7458	"	" "	" 4 "	a. ♀	245	128	29	16	117	
152270	7479	"	" "	" 6 "	a. ♀	263	140	31	16	123	
152115	7488	"	" "	" 8 "	a. ♀	252	134	30	17	118	
152116	7492	"	" "	" "	a. ♀	263	142	31	17	121	

Pseudohydromys

WBR

Catalogue No.	Total length	Condylo-basal length	Basilar length	Zygomatic breadth	Temporal constriction	Mastoid breadth	Nasal length	Rostral breadth, greatest	Diastema	Palatal length	Palatilar length	Incisive foramina length	Incisive foramina breadth	Greatest width outside molars	Molar row length	Molar row breadth
152112	31.5	30.3	24.0	14.8	5.5	12.5	12.1	—	7.6	17.0	13.1	4.2	2.0	6.6	4.7	1.7
152113	31.7	30.4	24.4	15.0	5.9	12.9	11.6	6.0	7.5	17.0	13.1	4.4	2.2	6.5	4.5	1.6
152114	—	—	—	—	—	12.7	11.6	5.9	7.8	16.8	13.0	4.5	2.2	6.6	4.5	1.7
152111	31.3	29.8	23.8	14.7	5.6	—	11.4	6.0	7.7	16.7	12.7	4.4	2.4	6.7	4.6	1.6
152270	31.8	30.7	24.6	14.9	6.0	13.0	12.0	6.0	7.9	17.1	13.0	4.3	2.3	6.6	4.5	1.6
152115	—	—	23.5	15.0	5.6	—	—	—	7.5	—	12.9	4.7	2.4	6.5	4.4	1.7
152116	Missing															

Hydromys chrysogaster esox

Hydromys esox Thomas

A single specimen taken from the Astrolabe Range conforms closely to Thomas (loc cit.) original description and to Rumsler's (i) account of the redescription. On this basis and because of the proximity of the Astrolabe to Port Moresby, the type locality, this specimen is considered ~~a typ~~ typical. Unfortunately ~~[illegible]~~ the animal is not a full adult as shown by the ~~[illegible]~~ unfused pre sphenoid suture. It has, however, worn molars, distorted sectorial and adult pelage which indicates it is near adult.

Hydromys chrysogaster illuteus

Hydromys esox illuteus Thomas

A series of 7 individuals ~~are~~ taken from Bernard Camp and the vacinity compare closely to Thomas's description of illuteus (loc. cit.). This camp is situated some 40 miles S E of Prawer-bivak in the same river system with a similar elevations, terrain, and vegetation. On the basis of the description and the proximity of localities these specimens are here considered ~~as~~ ~~also~~ virtually topo typical.

This form was considered by Rommler (loc cit) as a synonym of esox principally on the assumption that the color variation of the specimen from Prawer-bivak

~~was~~ within what he considered the range of individual variation. Although examining both types he had no series with more than three individuals from any single locality, which is hardly sufficient to make an accurate analysis of individual variation. In the series ~~seven specimens~~ from Bernard Camp (similarly in other series from the Fly River) I find that there is little individual variation when specimens in adult pelage and of similar sex are compared. On the basis of this constancy in

topotypical material it is apparent that Thomas's name of *illutis* should be revived to apply to the Siberian race of Hydromys.

Jentink (1911: p 169-170) who from his series of 7 individuals from Round [=Vicinity of] Biwak Island states "We see _____ transitionals." This variation ~~may depend on color~~ ~~in species~~ may also be due to inexactness of quoted label localities. This latter situation sometimes arises when specimens are purchased from natives who have obtained their catches in different regions. The skull

Insert Page 4

measurements, however ~~actually~~ show very slight variation if #419 is considered a sub-adult. The variation in the external measurements is rather larger than one would expect from the skull measurements but if we consider that probably these specimens were prepared and labeled by "monteiro" (native collectors) the variation is perhaps understandable.

~~Insert sentence~~

This form ~~was~~ allotype has been compared to that of ~~isox~~ by Thomas (1922: Nova Guinea Vol. 13, p. 731)

In addition several other differences are listed ~~after~~

1. The cinnamon buff patch in front of the shoulder is lacking

2. Dorsal-lateral half of hard brown, lacking the distinct dorsal stripes extending from the 4th finger posteriorly.

3. Muzzle dark with little or no white below rinarium.

4. No distinct line where white of cheeks and dark ~~top~~ of head join.

Material —

Hydromys chrysogaster tarara new sub-species

Type – No 105782 Amer. Mus. Nat. Hist.; ♂ ~~sub~~adult; Tarara, Wasi Kussi, Western Division, Papua, New Guinea; December 12, 1936; collector G.H.H. Tate, 1936 New Guinea Expedition; Type is skin ~~and~~ with skull in good condition.

Diagnostic characters – Smallest of the present known forms, total length 415, body length 210, hind foot 47. Color dark brown dorsally with rich cinnamon buff on flanks and belly. Skull small.

Description – General color above is ~~that~~ ~~#~~ dark grizzled brown produced by the dominant blackish brown guard hairs, tips and the cinnamon

buff sub terminal bands; darkest on head from the vinarium to nape of neck, shoulder ~~slightly~~ lighter, darkening gradually toward rump; sides lighter due to increasing width of the minimum buff guard hair band; dorsally the light gull gray underfur is almost obscured by the minimum buff tipped guard hair; tail blackish brown with white tips of 55 mm; hind feet sparsely covered with short fuscous hair, lighter laterally; front feet fuscous black with thin light colored lateral stripe running to 5th finger; ear dark, sparsely clothed with hair; ~~in~~

front of shoulders a cinnamon buff patch. Skull small; rostrum short, tapering; braincase inflated; ~~zygomatic breadth least~~ diastema short; molar row short, narrow; incisive foramina and interorbital constriction normal.

Measurements of type ——

Comparisons — Compared with esox and illutus in size smaller. Skull small with short tapering rostrum; zygomatic breadth narrow; temporal constriction proportionally broader; braincase smaller. In color dorsally tinged with cinnamon buff; flanks, belly and cheeks with the cinnamon buff more intensified; front feet

with broad dark dorsal stripe.

From *papuana*, *tarara* differs in smaller size with shortened body, tail, and foot length. Skull in all respects is much smaller. Color dorsally similar; ~~flanks~~ and belly ~~stony~~ richer cinnamon buff; hind feet fuscous brown; front feet with broad dorsal stripe rather than the thin well defined narrow stripe extending to the 4th and 5th digits.

Compared with description of *moae* (Banks Islands) size is smaller. Skull much smaller; ~~palatial~~ incisive foramina

longer and broader; interorbital constriction narrower; molar row shorter. Color dorsally darker.

Compared with description of <u>nauticus</u> (Aru Islands) and <u>beccarii</u> (Kei Islands).

size smaller; shorter hind foot.

Skull small; rostrum narrow tapering; diastema shorter; molar row shorter.

General color dorsally a darker brown, particularly in <u>beccarii</u>; more intensified cinnamon buff on flanks, cheeks, and belly.

<u>Remarks</u> — There are 15 specimens

from the middle Fly River region which are very similar to Torona. The individual from Gaima is a juvenile so nothing can be said of its affinities. The other 3 specimens from Stout Island and the 6 from Lake Daeumbu differ from the type in being somewhat larger in external and skull measurements, and with slightly less cinnamon buff color on flanks and belly, in these respects approaching the upper Fly River form.

In Peters description (Annali del Museo Civico di Storia Naturale de Genova Series 1 vol 14 1880-81 p 705-4) of beccarii he records a single specimen from the Fly River which is probably of this form.

Material —

Hydromys chrysogaster papuana new sub. sp.

Type – No. 105201 Amer. Mus. Nat. Hist.; ♂ adult; 1 mi. below mouth Black River, Upper Fly River, Western Division, Papua, New Guinea; alt 100 meters; July 25, 1936. collector G. H. H. Tate, 1936 New Guinea Expedition; type skin and skull in good condition.

Diagnostic characters – Large size; tail in proportion to body very long; hind foot long; ear short; longest vibrissae exceeding 90 mm. Skull large; rostrum elongated; brain case inflated; zygomatic breadth large. Color dorsally ~~dark~~ brown grizzled buff; ventrally ~~pale light~~ ~~gray yellow~~ gray with cinnamon buff tipped guard hairs; buff of upper lip extending up to rinarium; front feet with thin dark dorsal stripes extending to the 4th and 5th digits.

<u>Description</u> - Size large with proportionately long tail; front and hind feet large; ears short; vibrissae long. Color dorsally is a grizzled brown formed by the fuscous black tipped guard hairs and the cinnamon buff subterminal bands, slightly lighter over shoulders than on rump and head; laterally lighter in color shading to a light gull gray belly with cinnamon buff guard hair; hind feet clothed with short white hair except for brown colored first digit; front feet light cinnamon buff with thin dorsal stripe running to the 4th and 5th toes; ear short haired fuscous black; tail blackish brown, terminal 180 mm white; patch

in front of shoulders and another on cheeks light cinnamon buff. Skull large; rostrum elongated; zygomatic breadth broad; palatal length long; inter orbital constriction broad; diastema long; incisive foramina large; nasils long.

\# Measurements ———

Comparisons — Compared with taraaa, papuana is readily distinguished by its larger size; longer tail and hind feet. Color differences less pronounced being lighter dorsally with less prominent fuscous black tipped guard hairs; cinnamon buff on flanks and belly less intense; hind feet nearly white; ~~the~~ front feet with thin dark dorsal stripe.

Skull very much longer. From *esox* and *illutus*, *paparara* differs in having a ~~proportionally~~ comparatively longer tail; hind feet longer; Colo ~~wider~~ ~~cinnimon~~ buff dorsal and ventally. Skull larger; rostum longer; ~~width~~ zygomatic breadth greater; infraorbital constriction broader; incisive foramina larger.

Material — type.

Neohydromys

Mixed color phases ♂

W.B.R.

Catalog No.	Original No.	Collector	Locality Netherlands New Guinea	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Color Light Phase	Color Dark Phase
110070	4834	Archbold & Richardson	Lake Habbema 3225	Aug. 27, 1938	♂	345	184	37	10	X	
110050	4682	"	" "	" 12, 1938	♂	341	187	39	9	X	
110067	4813	"	" "	" 24, "	♂	340	187	37	9	X	
110060	4752	"	" "	" 20, "	♂	337	182	37	9		X
110061	4753	"	" "	" 20, "	♂	331	185	37	8		X
110078	5071	Measured by collector "	7 Km. NE Wilhelmina top 3560	Sept. 24, "	♂	329	167	36	6		X
110054	4721	"	Lake Habbema 3225	Aug. 18, "	♂	328	173	37	8	X	
110056	4723	"	" "	" 18, "	♂	327	174	36	9	X	
110051	4701	"	" "	" 14, "	♂	322	166	36	8		X
110071	4835	"	" "	" 27, "	♂	322	175	37	8		X
110055	4722	"	Lake Habbema "	" 18, "	♂	317	170	36	9	X	
110073	4844	"	" "	" 28, "	♂	317	171	36	8		X
110074	4848	"	" "	" 29, "	♂	312	160	35	9	X	
110052	4702	"	" "	" 14, "	♂	305	161	37	9	X	
110069	4824	"	" "	" 25, "	♂	300	156	35	8		X
110062	4765	"	" "	" 21, "	♂	295	149	33	10		X
110068	4814	"	" "	" 24, "	♂	294	145	36	8		X
110057	4724	"	" "	" 18, "	♂	285	146	34	8	X	

Average of 16? adults

To be saved for checking

Neohydromys

Mixed color phases ♀

W.B.R.

Catalog No.	Original No.	Collector	Locality Netherlands New Guinea	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Color Light Phase	Color Dark Phase
110053	4713	Archbold + Richardson	Lake Habbema 3225	Aug. 16, 1938	♀	350	190	38	9	X	
110049	4592	"	" "	" 5, "	♀	337	184	36	9	X	
110058	4725	"	" "	" 18, "	♀	316	164	35	8	X	
110076	4858	"	7 Km. NE Wilhelmina top 3600	Sept. 8, "	♀	313	160	35	7		X
110059	4726	"	Lake Habbema 3225	Aug. 18, "	♀	308	169	35	8	X	
110072	4836	"	" "	Aug. 27, "	♀	305	162	35	8		X
110064	4786	"	" "	" 22, "	♀	295	161	35	8	X	
110077	5055	Measured by collector	7 Km. NE Wilhelmina top 3560	Sept. 23, "	♀	290	154	35	8		X
110065	4787	"	Lake Habbema 3225	Aug. 23, "	♀	277	145	34	8	X	
110079	5085	Measured " by collector	7 Km. N.E. Wilhelmina top 3560	Sept. 27, "	♀	274	130	35	8		X
110063	4766	"	Lake Habbema 3225	Aug. 21 "	Subad? ♀	273	143	33	8	X	
110048	4585	"	" "	" 4, "	♀ Juv.	209	100	30	7		X
110066	4798	"	" "	" 23, "	♀ Juv.	190	90	27	6		X

To be saved for checking

Leptomys signatus

W.B.R.

Catalog No.	Original No.	Collector	Locality Papua, W. D.	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown		
105793	3061	Archbold & Tate	N. bank opp. Sturt Isl., Fly River	Oct. 25, 1936	♀	300	145	36	19	155	
105794	3125	"	L. " " " " "	Oct. 31, "	♀	298	~~151~~ 143	38	19	155	
Type 105792	2972	"	N. " " " " "	Oct. 12, "	♀	295	151	38	19	144	
105370	2968	"	N. " " " " "	" " "	♀	232	115	36	19	117	

Leptomys ernstmayri

W.B.R.

Catalog No.	Original No.	Collector	Locality Papua, Central Division	Date	Sex	Total length	Tail length	Hind Foot s. u.	Ear from Crown	Head and body length
108449	3520	Archbold + Tate	Sogeri 450m	Feb. 5, 1937	♂	308	151	40	22	157
108452	3691	"	Kagi, Kokoda Rd. 1500m.	Mar. 9, "	♂	267	143	35	19	124
108451	3690	"	" "	Mar. 8, "	♂	255	141	35	19	114
108450	3666	"	Sogeri, Astrolabe Range 410	Feb. 28, "	♀	315	125	40	21	190
108447	3581	"	Baruari rest house, Astrolabe Range 520	Feb. 13, "	♀	302	143	38	19	159
108448	3621	"	" " "	Feb. 19, "	♀	270	132	37	18	136
104199	1586	Archbold	Mafulu 1250m	Nov. 7, 1933	♂	306	154	40	17.9	152
104200	1605	"	" "	Nov. 14, "	♂	305	160	40	23	145

Missing Skulls

152077 – *Hydromys chrysogaster*.

110326 – *Pseudohydromys murinus*.

150598 – *New species*.

150579 – "

152116 – "

Look up Hydromys oriens

~~The~~

Troughton

1937 Rec. of Aus. Mus. V 20 N. 2 p 127

In card catalogue (original description

Hydromys	Neohydromys	Pseudohydromys	Leptomys

Plan of Procedure

~~RESULTS OF THE ARCHBOLD EXPEDITIONS. NO.?~~

Titel New Hydromine Rodents from New Guinea

Introduction

Hydrominae

Distinguishing characters

~~List of Genera~~

Comment on Rummlers syn.

Neohydromys new Genus

Type of the Genus Neohydromys archboldi

~~Diagnosis~~

~~Remarks~~ (See chart)

~~Measurements (See chart No. ?)~~

Neohydromys archboldi new sp.

Type —

Discription (including external and skull characters)

Measurements of type (See chart No? Specimen No ?)

List of material

Other Genera - Hydromys, Pseudohydromys

Type citation

Material

Measurements (see chart) Comments

Comparison of Genera Table

Introduction

This paper deals with the New Guinea Hydromian Rodents which were taken on the Archbold 1938-1939 Expedition (Indisch Americkaansche Expeditie) under the auspices of the American Museum of Natural History.

The region worked was that of the north slope of the Snow Mountains from an elevation of 4000 m. down to 1600 m.; the mid Idenburg slope from 2100 m. to the Idenburg River an elevation of 60 m.; and Hollandia on the north coast. (See Rand —)

Introduction (continued)

Here a comprehensive study and collection of mammals was made, the Hydromine group of which is here delt with in the ~~the~~ paper.

The purpose of this treatise is to clarify the subfamily, to describe new genera and species, and to compare other members of the New Guinea Hydromiinae which were taken during the expedition.

Hydrominae

The following characters are constant for the genera of New Guinea Hydrominae (Hydromys, Neohydromys, Pseudohydromys, Leptomys)

1. Simple molars having basin-like depressions with raised edges.

2. Loss or reduction in size of third molar, and elongation of first.

3. Flattened or concave dorsal outline of skull.

4. Constriction of intertemporal region.

5. Rounded infraorbital canal.

The two genera Crossomys and Parahydromys previously referred to in this group have been included in the genus Hydromys by Hans Rümmler. (Die Systematik und Verbreitung der Muriden Neuguineas, Mitt. Zoolog. Mus. Berlin, 1938. Band 23. Heft 1. p. 17.)

Neohydromys new genus

Type of genus Neohydromys archboldi new species

Diagnosis — Size about that of a house rat; soft, thick pelt; tail bicolored, slightly longer than body, moderately well haired; hind feet well fleshy with inter digit webbing; Ears small well furred inside and out

$\frac{2}{2}$ typical Hydromyin molars; skull flat with rounded braincase, constricted [?] interorbital region, shortened nasals, rounded infraorbital canal; palatal folds ?

Remarks — From the genera in the sub-family discussed by Tate, Some Muridae of the Indo-Australian Region, Bull. Am. Mus. Nat. Hist., 1936, vol 72, Art 6, pp 636 — 639 and by Rümmler, Eine neue Mausengattung aus dem Hochgebirge Neuguineas, Zeitschrift für Saugetierkunde, 1934, Bd 9, pp 47-48.

Neohydromys differs from its closest relative Hydromys in its smaller size with reduction of head and body length (as table) ~~being as compared to in Hydromys. There is also a marked proportionate difference in size of~~ hind foot and length, tail length. The pelt though ~~not woolly~~ near that of Pseudohydromys in color and texture differs in ~~being~~ being longer ~~length~~ and with more prominent guard hairs. It resembles Hydromys and differs from Pseudohydromys and Zeomys in possessing webbing between the toes of a moderately well haired bicolored tail. ~~It differs from Pseudohydromys and Zeomys in general~~ Skull differs —

Type — *Neohydromys archboldi*

Discription

The form as compared to that of *Hydromys chrysogaster* is much smaller (See measurements) with front feet reduced; fore arm shortened; hind feet broad with well defined webbing between 2nd and 3rd and 3rd and 4th digits; claws relatively heavy only slightly recurved; tail flesh with a tendency towards being rectangular in cross section; ears small, short not reaching tips of surrounding guard hairs, ~~broadly~~ rounded, furred inside and out. V. For further eyes small; pelt thick.

particulars see chart.

There are two color phases represented in the series which cannot be explained by sexual, ecological, nor geographic differences. The lighter colored phase is represented by 16 individuals, 9 ♂s and 7 ♀s, which are characterized by a uniform (?) gray dorsal surface through which white barded guard hairs protrude producing the general effect of silvery flecks on the

gray background. The underfur plucked from the middle of the back has a total length of 11 to 12 mm, 10.5 mm of which is gull gray and a 1½ mm tips of fuscus. Guard hairs from the same region are 15 to 17 mm in length [?check 14-16] possessing a simmilar silver gray base of 10.5 mm and a thickened tips. The tips are of two types equally numerous; ~~The slightly~~ those of a uniform

fuscous brown color which are ~~usually~~ often slightly longer (by 1-2 mm), and those with a whitish band (3.5 to 4.5 mm) and a fuscous tips of about 1 mm. The general color as stated is dorsally a uniform gray with a fuscous wash and small whitish banded guard hairs protruding through producing a grizzled effect. Laterally the color is lighter with a faint fuscous wash. Ventrally it is a light silver gray

due to the fusion of the guard hairs and underfur being replaced by ~~the~~ a whitish color. The fore and hind feet are covered with a very short white ~~or yellow white~~ hair. The ears are furred inside and out with a short soft hair gray in color like that of the body. The tail at the base and for about 1 cm. of its length has a hair covering similar to that of the body. For the remainder of

its length it is covered with stiffer hair which for the ~~approximately~~ 2/3 ~~of its lengths~~ is a fuscus black in color; the remaining distal third is white. The tail hair is unevenly distributed; dorsally being thinner and shorter (1 to 4 mm) so the annulations are visable; ventrally, however, the hair increasing in length ~~and toward the tip~~ obscuring the annulations and toward the tip forms a ventralposterior fringe of white hair 6 to 10 mm in length. The vibrissae ventrally

are shorter, more numerous, and are whitish in color; the dorsal and longer ones have a dark brown or black base with the distal portion faded a dirty white color.

Of the darker colored phase there are 15 individuals, 9 ♂s and 6 ♀s (2 of which are juvenile). They differ from the lighter phase in that they lack the white of the guard hairs ~~instead~~

which is replaced by fuscus. This produces a general darker color which is slightly darker dorsally than ventrally. The feet, ears, tail, and vibrissae are simmilar to that of the lighter colored phase. One thing of note ~~and that~~ is the presence of white spotting formed by a group of white hairs. This spotting occurs in the general regions, on the

posterior half of the back, the other in the vicinity of the throat. On the back the spots are small (½ to 2 mm diameter) and vary in number from one to many. The throat spot on the other hand is usually a single larger spot located on the mid-line between the forelegs or on the throat. The back spotting in the series occurs only ~~on~~ the darker phase (7 males and 4 females, not on juveniles).

The throat spotting occurred on 8 of the 8's and 2 of the 7's only one (a male) of which was of the light ~~colored~~ phase.

[illegible] shell

Measurements of *Neohydromys*

♂ Total length

320 av.
345 l.
285 s.

♀ Total length

306 av.
350 l.
273 s.

♂ Tail length

169 av.
187 l
145 s

♀ Tail length

163 av.
190 l.
143 s.

♂ Hind foot length s.u.

36 av.
39 l
33 s

♀ Hind foot s.u.

35 av.
38 l.
33 s.

♂ Ear from crown

9 av.
10 l
8 s

♀ Ear from crown.

8 av.
9 l.
7 s.

	Hydromys	Neohydromys	Pseudohydromys	Leptomys
Tail	Fleshy. 10 mm diameter 10 mm from base. Well haired. Poorly developed posterior dorsal fringe (except H. aeger) Bicolored. Length 200 – 350 mm	Moderately fleshy. 5 mm diameter 10 mm. from base. Moderately well haired. Well developed posterior dorsal fringe Bicolored. Length 190 – 143	Not fleshy 3 mm diameter 10 mm from base. Sparsely haired. No dorsal fringe Monocolored. Length 95 mm	Not fleshy — diameter 10 mm from base. Sparsely haired. No dorsal fringe. Monocolored. Length 134 – 172
Pelt. (see other reference)	Length of guard hair taken from middle of back 18 – 18 mm. Length of underfur 6 – 11 mm.	Length of guard hair taken from middle of back 15 – 17 mm. [14 – 16 Hatton] Length of underfur 11 – 12 mm.	Length of guard hairs taken from middle of back 7 – 9 mm. Length of underfur 6 – 7 mm.	Length of guard hair taken from middle of back 7 – 10 mm Length of underfur 6 – 8
Habitat	Frequents streams or river banks of forested lowland and mountain areas.	Frequents grassy banks of streams and lakes at high elevations (2500 m and above)	Occurs in mixed cover of brush, grass, and small trees of high. Not restricted to lake borders. One exception and that individual was taken on moist littered floor of the rain forest.	
Palatal folds			3	

	Hydromys	Neohydromys	Pseudohydromys	Leptomys
Size	Large. Head and body length 205–350 mm	Medium. Head and body length [illegible] – [illegible] mm	Small. Head and body length 91 mm	Medium. Head and body length 124–162 mm.
Pelt (see other reference)	Hard to soft texture. Agouti brownish-black, lighter belly. No white spotting.	Very soft texture. Gray monocolored with lighter belly. White spotting.	Very soft texture. Gray monocolored. White spotting.	Soft texture. Buff brown with white belly. No white spotting.
Ears	Small to large 15–22 mm. Nearly naked. May or may not protrude beyond surrounding fur.	Small. 10–7 mm. Furred inside and out. Does not protrude out of surrounding fur.	Small. 12 mm. Nearly naked. Protrude beyond surrounding hair 1 to 2 mm	Large 20–21 mm. Nearly naked. Protrude beyond surrounding hair —
Vibrissae	Length of longest 60–75. Numerous (particularly in H. esox). Protruding from bulging lips.	Length of longest 45–60. Numerous. Protruding from bulging lips.	Length of longest 25–40. Moderately numerous. No bulging of lip apparent	Length of longest —. Moderately numerous. No bulging lips.
Front feet	The pad at the base of the halix and that of the base of the 1st finger divided by deep cleft. Hair at base of foot approximately 13 mm long	The pad at the base of the halix and that at the base of the 1st finger divided by —. Hair at base of foot approximately 8 mm long	The pad at the base of the halix and that at the base of the 1st finger is separated by 1 mm. —. Hair at base of foot approximately 10 mm.	
Hind feet	Fleshy. Laterally broadened. Well defined webbing between 2nd and 3rd and 3rd and 4th digits. Length 46–66 mm	Fleshy. Laterally broadened. Well defined webbing between 2nd and 3rd and 3rd and 4th digits. Length 39–33	Not fleshy. Not broadened laterally. No webbing. Length 19 mm	Not fleshy. Not broadened laterally. No webbing. Length 36–40 mm

External

① ~~Tip~~

② ~~Pelt~~ (soft and thick, color

~~③ Color~~

⑦ Tail (thickness, backbone, hairs, visible underpelt, proportion to body length.

~~⑥ Hind fat~~

~~Fat~~ (Likely flooded, nature of depth

⑧ Palatal folds (3 ±

~~④ Cone~~ (small external)

~~Vibrissae~~

~~⑤ Front fat~~

Skull

Molars (length, 2/2 typical)

Cranium (flat, rounded

Nasal bones (Truncated)

Infraorbital canal

Axis of upper incisors is greater than 90° angle with nasals

Form of upper incisors

(T) Zygomatic notch

(T) Enlarged lip process of masseter muscle (20 cal on hypotrogy)

(T) Reduction of bulla (?)

Inter orbital region (constricted

Multirooted tooth.

Pseudo.

Rectangular
3 lines per scale

Neo.

Rectangular
3 lines per scale

H. Rec.
3 lines

Wire wound trim ring and bolt

Type

Diagnostic characters

Description

External chacters

Color

Skull

Measurements

Comparison

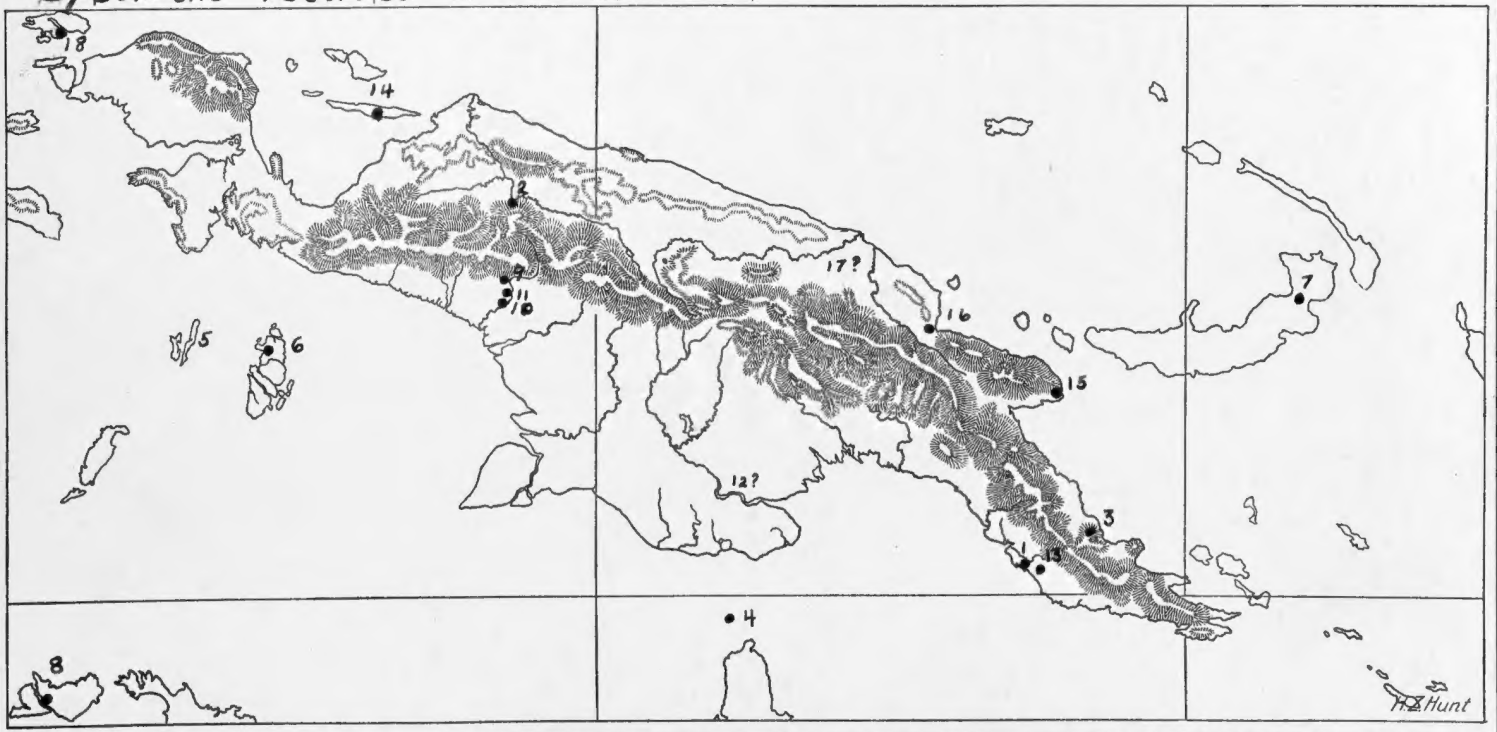
Material

Remarks

SPECIES *Hydromys chrysogaster*

LEGEND | SUBSPECIES | LOCALITY | SPECIMEN

Specimens recorded in literature.



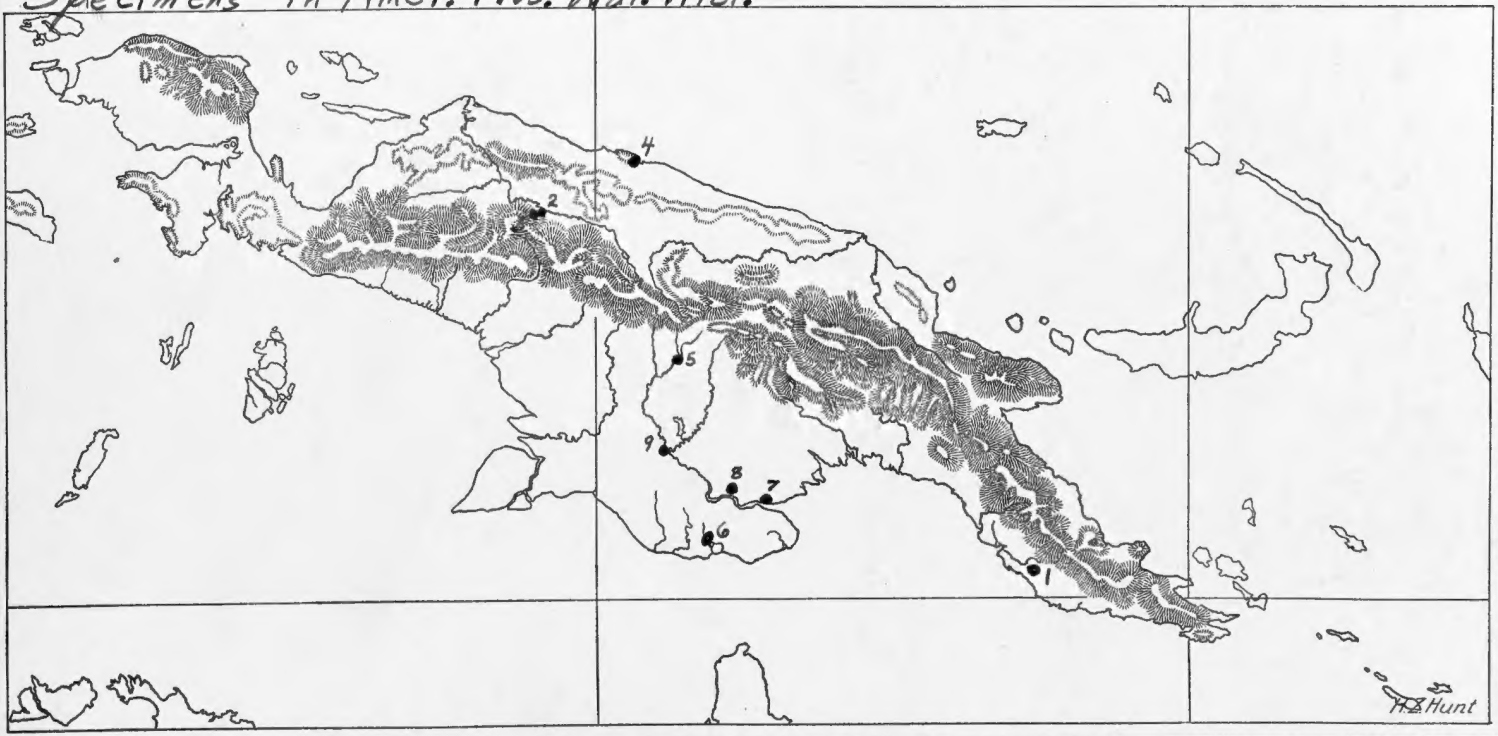
SPECIES *Hydromys chrysogaster*

LEGEND	SUBSPECIES	LOCALITY	SPECIMEN in Am. Mus. Nat. Hist.
1	esox	Baruari rest house	#108470
2	illuteus	4 km SW Bernhard Camp	#152072, #-73, #-74, #-75, #-76.
3	illuteus	Bernhard Camp	#152077, #-78.
4	?	Hollandia	#109503
5	papuana	Upper Fly River	#105201
6	tarara	Wasi Kussa	#105782
7	"	Gaima	#105781
8	"	Sturt Island	#105778 – #105780
9	"	Lake Daviumbu	#105772 – #105777

SPECIES *Hydromys chrysogaster*

LEGEND | SUBSPECIES | LOCALITY | SPECIMEN

Specimens in Amer. Mus. Nat. Hist.



SPECIES *Hydromys chrysogaster*

LEGEND	SUBSPECIES	LOCALITY	SPECIMEN
Thomas 1897, p. 607 13.	?	Haveri, near Mt. Wori-Wori, Astrolaub Range	1 British Mus., collected by Loria.
Stein 1938, p 123 14.	?	Japan	1 Stein collection. [3 specimens recorded by Rummler]
Rummler 1938, p 24 15.	?	Sattlburg	1 in Leiden, 1 in Berlin Mus.
16.	?	Astrolabe Bay	1 Berlin Mus.
17.	?	~~German~~ New Guinea	1 Berlin Mus.
Heller, 1897, p 3 X	—	Sorong	Not *Hydromys* [See Rummler 1938, p. 24.]
Tate, 1936, p 643 18	?	~~D'Ent~~ Waigeu Isl.	1 in Field Museum # 31847.

SPECIES *Hydromys chrysogaster*

LEGEND	SUBSPECIES	LOCALITY	SPECIMEN
Tate + Archbold, 1935, p. 8			
7.	neobrittanicus (Type)	Bainings, Balayang, Wide Bay, New Britain, Soloman Isl.	1 in Amer. Mus. Nat. Hist., collector W. F Coultas
Thomas 1921, p. 430			
8.	melicertes (Type)	Biro, Arsley Straits, Melville Island.	1 in London Mus.
Thomas 1922 p. 731			
9.	?	Kloof bivak, Noord R.	2 in Liden Mus.
Jentink 1911, p 168			
10.	?	Bivak Island	7 specimens
Jentink 1907, p. 5			
11.	?	Sabang	1 Lorentz collector., Leiden Mus.
Peters + Doria 1881 p. 706			
12.	?	Fly	1

SPECIES *Hydromys chrysogaster*

~~LEGEND~~	SUBSPECIES	LOCALITY	~~SPECIMEN~~
Thomas 1906, p. 324			
1.	esox (Type)	Port Moresby	1 in London Mus.
Thomas 1922 p. 264			
2.	illuteus (Type)	Prauwen bivak, Idenburg R.	1 in London Mus., collected by van Heurn
Throughton 1937, p 127			
3.	oriens (Type)	Mt. Lamington	1 in Australia Museum, coll. by C.T. Mc. Namara
Throughton 1935 p. 254			
4.	moae (Type)	Banks Island, Torres Strait	2 in Australia Museum
Peters 1874 p. 302			
5.	beccarii (Type)	Weri, Kei Islands	2 collector Becarri
Thomas 1921 p. 429			
6.	nauticus (Type)	Dobo, Aru Isl.	1 collected by W. Stalker

Hydromys labiosus – 28 individuals were taken from the Lake Hebburn camp. The habitat of this small Hydromys was the grassy borders of the lake and its outlet stream. Here the grass grew from 18 to 30 inches high covering the shore in a narrow strip from two to six feet wide between the elevated lip and the first edge a marsh. Through this fringe of rather dense coarse grass there were numerous runways about 2 inches in width extending in all directions. It was in these paths that most of these animals were taken. There were numerous well worn paths which led out of the grass over the six to eighteen inch high lip of the lake shore. During the dries season when the lake was down track could be seen along the small sandy beach and it was here that several individuals were trapped. They apparently frequent the waters edge picking up the insects which blow in. It is quite possible, too,

that they swam in the lake among the sedges which grew out of the shallower parts of the margin. On one occasion only was an individual taken as far away from the water edge as 16 ft. This individual was caught in a trap placed at the entrance of a hole in a moss clump which had formed about the base of a bush, some two yards away from the lake-grass fringe. The stomachs were examined and contained a small amount of green vegetable matter, another a mixture of plant and animal matter, and the third contained curdled milk (It was apparently still suckling).

Four individuals were taken at the 3600 m camp. One individual was taken in a trap set in a small runway through the tall grass clumps above an underground stream. The ground here was quite moist but there was no visable surface water could be heard flowing over the rocks a short distance below the sod. The other

The individuals were taken by a collector who said they were trapped in small runways along the grassy stream side.

Hydromys aspa — Three individuals were taken at the 2800 m camp. Habitat was the mossy black forest with moss covered undergrowth and litter. The traps in which they were caught were in each case set in rather ill defined runways between fifty and sixty feet from the stream side. The stomachs were empty. The testes were rather large one and one quarter inch long by one half inch thick containing what appeared to be the remains of insects. A female taken October 24 had no embryos nor were the mammary glands functional.

At the Bele River camps one individual was trapped and ten others were brought in by natives. The habitat of the trapped animal was much the same as that described from the camps above.

Were known the trap was ~~[illegible]~~ 300 yds up a
very steep hill slope from the river, indicating
that these animals do wander away from the
riparian conditions.

One individual was trapped at the 1200 m
camp. It was brought in by collectors from the
the mossy forest.

Another specimen was taken by a collector
from 10 Km SW Bernhard Camp at 1500 m.
~~No information on habitat was~~

It is my opinion that these animals
inhabit the mossy forest ~~throughout the~~
area. Though they are seen ~~[illegible]~~ commonly
they are more frequently found near
streams ~~in the~~ and are hard to be caught along
ill defined trails through the bush.

Hydromys chrysogaster — Five individuals were taken from the 850 m camp. They were trapped or snared in obscure runways near a stream. The vegetation of the stream did differed from the ajoining mossy forest in that there was a rather heavy second stage and Lopezalli-type of growth, with much litter, some of which had been washed in by the over flowing stream. A list of the stomachs with contents are as follows: One stomach contained remains of frogs and insects; another ~~contained~~ insect remains; another one frog and other material resembling that of freshly masticated fruit; another material resembling blood; and the other was empty. The remains of a crab near one cabin would indicate that probably these too were eaten. The testes of the ♂ were enlarged protruding in a distended scrotum at the base of the tail. One ♀ taken April third contained two large embryos 50 mm long. The four mammae (all posterior) were non lactating

The upper lip as compared with that of Hasper is less tapering and contains fewer vibrissae.

From Bernard Camp the specimen were taken during the month of April and May. At this time the Tolumbung River was in flood and only small strips of land were above water. It was on these islands that the traps which caught these mice were set. Here the vegetation was that typical of the rain forest with its large trees forming a rather dense canopy. The undergrowth was sparse and the litter for the most part was in an advance state of decay.

Hydromys habbema. - Twenty-eight individuals were taken from the Lake Habbema camp. The habitat of this small Hydromys was the grassy borders of the lake and its outlet stream. Here the grass grew from 18 to 30 inches high, covering the shore in a narrow strip from 2 to 6 feet wide, between the elevated lip and the forest edge or marsh. Through this fringe of rather dense, coarse grass there were numerous runways about 2 inches in width extending in all directions. It was in these paths that most of these animals were taken. There were numerous well worn paths which led out of the grass over the six to 18 inch high lip of the lake shore. During the dry season, when the lake was down, tracks could be seen along the small sandy beach, and it was here that several individuals were trapped. They apparently frequent the water's edge, picking up insects which blew in. It is quite possible, too, that they swam in the lake among the sedges which grew out of the shallower, peaty lake margin. One one occasion only was an individual taken as far away from the water edge as 11 feet. This individual was caught in a trap placed at the entrance of a hole in a moss clump which had formed about the base of a bush bush some 2 yards away from the lake grass fringe. Three stomachs were

examined; one contained a small amount of green vegetable matter, another a mixture of plant and animal matter, and the third curdled milk (it was apparently still suckling).

Four individuals were taken at the 3600 m. camp. One individual was taken in a trap set in a small runway through the tall grass clumps above an underground stream. The ground here was quite moist, but there was no visible surface water. It could be heard flowing over the rocks a short distance below the sod. The other three individuals were takne by a collector who said they were trapped in small runways along the grassy stream side.

Hydromys asper. - Three individuals were taken at the 2800 m. camp. Habitat was the mossy beech forest with moss covered undergrowth and litter. The traps in which they were caught were in each case set in rather ill defined runways between fifty and sixty feet from the stream side. The stomachs were empty. The feces were rather large, $1\frac{1}{4}$ inches long by $\frac{1}{2}$ inch thick, containing what appeared to be the remains of insects. A female taken October 24 had no embryo nor were the mammary glands functional.

At the Bele River camp one individual was trapped and ten others were brought in by natives. The habitat was the same as that described for the camp above. Here, however, the trap was 300 yds. up a very steep hill slope from the river, indicating that these animals do wander away from the riparian conditions.

One individual was trapped at the 1200 m. camp. It was brought in by a collector from the mossy forest.

Another specimen was taken by a collector from 10 km. S.W. of Bernhard Camp at 1500 m.

It is my opinion that these animals inhabit the mossy forest area.

Though never they are more frequently found near streams, and are to be caught along ill defined trails through the litter.

Hydromys chrysogaster. - Five individuals were taken from the 850 m. camp. These were trapped and speared in obscure runways near a stream. The vegetation of the stream side differed from the adjoining mossy forest in that there was a rather heavy second stage and a chaparral-type of growth with much litter, some of which had been washed in by the overflowing stream. A list of the stomachs with contents is as follows: one stomach contained remains of frogs and insects; another insect remains; another and other material resembling that of finely masticated fruit; another material resembling blood; and the other was empty. The remains of a crab near our catch would indicate that probably these, too, were eaten. The testes of the male were enlarged, protruding in a distended scrotum at the base of the tail. One ♀ taken in April third contained two large embryos 50 mm. long. Her 4 mammae (all posterior) were non-lactating. The upper lip as compared with that of H. asper is less bulging and contains four vibrissae.

From Bernhard Camp three specimens were taken during the months of April and May. At this time the Idenburg River was in flood and only small strips of land were above water. It was on these islands that

that the traps which caught these animals were set. Here the vegetation was that typical of the rain forest with its large trees forming a rather dense canopy. The undergrowth was sparce and the litter for the most part was in an advanced state of decay.

20mm B. Richardson
1938

Hydromys

Aug. 4 Lake Habbema, Netherlands New Guinea. 3225 m.

Caught 1 juvenile in the 392 traps. This individual was taken in one of the mouse traps set in the grassy edge of the lake shore. The trap was set in a rather large runway through the coarse grass within 2 ft of the lake edge.

Aug 5 Lake Habbema, Netherlands New Guinea. 3225 m.

1 individual in 392 traps. This animal appears to be a sub-adult ♀. There were no embryos. The trap in which it was caught was set in the thick grass that borders the western bay. This grass is 2 to 3 ft in height and covers a band varying in width from 2 to 5 ft. It is very dense. Though it are numerous paths going in every direction through the grass, many of them opening out to the water's edge. The stomach of the beast contained a small amount of green vegetable matter.

Aug 12 Lake Habbema Netherlands New Guinea 3225 m

1 individual in 375 traps. This animal was taken in a rat trap set along the heavy grassy fringe of the lake shore. About this portion of the lake (NW shore line) there is a heavier fringe of grass varying in thickness from 2" to 6" ft., ~~the grass is~~ and often saturated with ~~a~~ reeds in the lake or swampy border of the zone. The grass varies in height from 18 to 30 inches and is of a coarse dense character with numerous trails along the floor which usually form a maze of runways rather than a distinct path. ~~A~~ Beyond the grass, heavy fringe is a lower less dense grass which may be in small clumps or ~~in~~ a low mat like ~~xxx~~ grass. This extends some 50 - 500 yd back to a forested

hill slope. The trap in which the beast was caught was in a rather narrow (2 ft.) fringe of thicker grass. The trap was set within 3 ft in from the lake edge (1 ft. above lake level) in a small runway through the fringe. The runway was about 2 inches in diameter and at the point where the trap was set it had an exit to the water edge. Stomach (preserved) appeared to have a mixture of plant and animal matter in it.

Aug 14 Lake Habbema, Netherlands New Guinea 3225 m

2 in 375 traps. Both were taken along the lake shore (one on the north west side of the bay, the other on north west side of lake). One was taken on a small peaty mass at the lower edge of the 1st bank of the lake. This peaty mass protruded slightly above the water level and connected with the bank itself. In the water about this region there was a thin growth of rushes extending from the bank 10 ft into the lake. On the bank above the water edge was low grass with bare and there scattered clumps of taller grass. The other specimen (the older of the two) was taken in much the same type of ecologic setting as the one taken on Aug. 12 (see notes). There was a bank extending above the water level some 1½ or 2 ft. on which was growing the heavy border grass of the lake. In the spot where the trap was set this border was about 3 ft wide. Along from the border was a low matted grass with small scattered clumps of higher (1 ft) grass. The trap was set in a runway through this heavy border grass. In this vicinity there are frequent tiny entrances at the water which appear to be used frequently. It was where such a entrance joined a main trail that the animal was caught.

Aug 16 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 375 traps. This individual was taken in a trap set 5 ft from the water edge in one of the maze of trails through the heavy grass thicket bordering the lake. Along the water edge the grass gave way to a thin growth of rushes.

Hydromys

Aug 18 Lake Habbema, Netherlands New Guinea 3225 m.
6 in 375 traps. These specimens according to the collector who brought them in were taken in some 40 traps set along the edge of the inlet outlet of the lake. ~~There is a~~ There is a heavy growth of sedge in the water and a heavy tall grass along the stream bank. The traps were set in the runways through the grass or at the outer border of the sedge thickets.

Aug 19 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 375 traps. This specimen was taken in the same line as the above 6 specimens taken yesterday. The trap was set in a runway at the region where the reeds and grass meet near the high water line. This little(?) path ran parallel the stream and in following the edge, that is the path had a defined direction. According to the boy who showed me where some of the specimens were taken yesterday they were caught in traps 1 to 2 ft. away from the water's edge in trails through the grass paralleling the river.

Aug 20 Lake Habbema Netherlands New Guinea 3225 m.
2 in 345 traps. They were both taken in small runway along the edge of the outlet of the lake. Along this sluggish stream there is a border of rushes and on the higher ground above grass. These animals were taken in a runway along the transition from grass to edge of rushes. The trail was distinct and directional and probably used by Stenomys as well as the rodent.

Aug. 21 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 387 traps. The ♀ which took from the traps was 10 ft from the water's edge, the

distance between being too broad with a good cover of moss which is heaped about the base of the bushes. The animal was caught in a trap placed in a hole in one of the clumps.

Aug 22 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 382 traps. Both individuals were taken along the lake shore in runway through the heavy border grass near the low sedges. The traps were set in trails in or near the transition between the grass and the sedge.

Aug 23 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. According to the collector this animal was taken along the lake shore within 2 ft. of the water's edge. This juvenile from the looks of the stomach was still suckling its mother.

Aug 24 Lake Habbema Netherlands New Guinea 3225 m.
2 in 384 traps. Both were brought in by collectors who took them from traps set along the north west lake shore and outlet stream.

Aug 25 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 386 traps. Brought in by collectors. Probably taken in traps set along north west lake shore or along upper portion of the outlet stream.

Aug 27 Lake Habbema, Netherlands New Guinea, 3225 m.
3 in 384 traps. Brought in by collectors.

Aug 28 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. Brought in by collectors. Same conditions as stated Aug. 25.

Aug 29 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. Brought in by collectors.

Hydromys Habbema

Sept. 8 2 km NE Wilhelmina Top, Netherlands New Guinea; 3600 m
(4) 1 in 187 traps. This individual was taken in a trap set in a small runway through the grass slope above the undergrowth hillside stream. The conditions here were quite moist but there was no visible surface water although water could be heard flowing over rocks a short distance below the surface of the soil.

Hydromys appears

Oct 24 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 216 traps. Taken in runway through the mossy undergrowth of the open mossy forest of the upper stream bank. The trap was set a distance of some 50 ft from the water edge. There are a few things of interest about the animal which should be noted here. The vibrissae are set at an angle to form almost a straight line even with the ~~no~~ tip of the nose. Not shown.
The dung is large 1¼ inch × ½ inch. a large and mass of what appeared to be insect remains. There were no ent. nor were the mammary glands functional.

Oct 27 9 km NE Lake Habbema, Netherlands New Guinea 2810-2700 m.
2 in 245 traps. The adult ♂ was brought in by collectors who said it was taken in a runway at the edge of a bog in the second growth salmo forest some 50 ft from the stream. The sub adult ♂ was taken in an obscure runway through the litter in the brushy undergrowth of the mossy forest some 60 ft from water edge. The stomachs of both specimens were empty.

Nov 17 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 19 Bele R., 18 km N Lake Habbema Netherlands New Guinea 2200 m
1 brought in by natives.

1938
1939

Nov 21 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 25 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 26 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
3 brought in by natives

Nov 27 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 28 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives

Dec 2 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 in 213 rat traps. — Brought in by Papuan and so unknown nothing of the species habitat. The general area was that of forest with relatively thin undergrowth of brush and a moist leaf forest floor. It is a distance of some 300 yd down a very steep slope to the river.

Dec 3 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Hydromys aspera
Feb 18 6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea. 1200 m.
1 in 17 steel trap. Brought in by ~~native~~ collectors. Stomach contained mud etc presumably devoured while in trap

Hydromys chrysogaster
Mar. 8 4 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 216 rat traps. Taken in runway through the undergrowth of the secondary forest ~~beside~~ on ~~at~~ the upper ~~edge~~ bank of a small stream. Stomach contained material resembling blood.

Mar. 24 1 in 812 snares. Brought in by collector. Stomach contained remains of 1 frog and some other material resembling that of finely masticated fruit. Testes enlarged. Habitat flood plain.

Hydromys Argyrogaster

Apr. 2 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 208 rat traps. Taken in trap set on a clay ~~bank~~ bank (3 ft wide, 2 ft high) at the edge of a stream bed. There was a heavy canopy of flood plain vegetation covering the stream. Although ~~so~~ there was no definite runway over this bank the fine mesh which covered it ~~so~~ had the appearance of being trampled. There was also the ~~one~~ remains of a crab in the water near by. Stomach contained remains of insects. Testes enlarged.

Apr. 3 1 in ~~805~~ 205 rat traps. Brought in by collector. Taken in trap line bordering the river along edge of flood plain. 2 large ent. (sa dendolis). 4 posterior nonlactating mammary glands. Stomach contains remains of frogs and insects. The upper lips of this beast as with the others taken in this vicinity have a lip which protrudes but not to ~~the~~ as great ~~as~~ degree as those taken ~~at~~ at the Bele R. and above.

Apr. 6 1 in 1075 snares. Brought in by collector. Stomach was empty. Testes enlarged.

Apr. 27 Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 253 rat traps. Taken in forest at edge of lagoon. Here there is only a small strip of land which is not inundated but will be so with a rise of another 20 to 40 cm of water. The ground is very moist.

Apr. 30 1 in 799 snares. Taken on upper flood plain. The region is moist and near water due to flooded conditions of the area.

May 7 1 in 1055 snares. Brought in by collector. Taken on the east side of the river on forested banks which remain 1-2 ft above the present flood. Alcohol

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Hyomys

Oct 29 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 29 steel traps. Brought in by collectors who said it was caught in trap set on small log crossing the stream. The tracks were internal (within body cavity) and not over an inch in length × 3/16.

Nov 1 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives. This individual was probably taken at a lower altitude 2300 m. ± near the native settlement.

Nov 14 ~~9 km NE~~ Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives.

Nov 16 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
~~1 brought in by natives.~~ 1 in 29 steel traps. Taken according to collecting boy in steel trap set in runway through forest.
Nov 20: Today I saw the set in which the above mentioned beast was taken. It was set in a runway beneath an overhanging boulder in the primary forest. Heavy growth of timber and an undergrowth of rather open shrub and moderate amount of rocks and litter.

Nov 29 Bele R. 18 km N Lake Habbema Netherlands New Guinea 2200 m.
1 brought in by natives.

Apr. 14 Beenland Camp Idenburg R., Netherlands New Guinea 75 m.
1 in 27 steel traps. Brought in by Dyak collectors. Taken on ~~side of~~ lower ridge slopes of hills above Idenburg plains. Stomach contained remains of fruit. Animal very fat. Tender skin. Testes enlarged.

Type: H 7847 Zenuromys Guba

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Lorentzimys

Oct 15 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 401 traps. Brought in by collectors. Probably taken in small runway through bush or litter of the mossy forest floor.

Oct 22 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 418 traps. Specimen taken in the mossy forest along the ridge where there was little undergrowth, the forest floor being covered with moss and leaves. The leaves accruing in the depressions in the moss making a more or less natural runway. It was in such a runway that the beast was taken. There was no food in the stomach. The testes were enlarged indicating maturity although much smaller than the ♀ taken on Oct. 15.

Oct 28 9 km NE Lake Habbema, Netherlands New Guinea 2700 m.
2 in 413 traps. Taken by collectors.

Nov 14 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 308 traps. According to collectors who brought it it was taken in small runway on forest floor near a garden clearing.

Nov 15 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 416 traps. From trap set in forest. Taken by collectors.
Nov 20: Today saw the trap in which this animal was caught. It was in a small runway at the edge of a bush in the primary forest. There was an open undergrowth of brush and some litter.

Nov 24 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Jan. 12 15 km SW Bernhard Camp, Idenburg R., Netherlands New Guinea 1800 m.
1 in 425 traps. Individual taken in trap set on floor of mossy forest. The region was that had scattered large forest trees, moderately thick second story growth and

scattered undergrowth. The forest floor, on a steep hill slope, had a quantity of litter of logs, rocks; there were however small open spaces with a clearing well more. It was at the edge of such a space beneath a small scraggly shrub that the trap was set in which this beast was caught. The testes were enlarged measuring some 15 m.m. The stomach contained only a small quantity of food which appeared to be that of fruit or tuberous material.

Jan 23 15 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1800 m

1 in 425 traps. Taken in little open mossy running about a large tree. The individual was caught by at the base of the tail in a mouse trap and apparently did not injure it in any way seriously. The following are notes made while watching the the beast while held captive in a wire tin with a chunk of excelsior on the bottom for cover. It is apparently a nervously active animal scampering about the cage and continually quivering the antennae and ears. It apparently desires a dark retreat and when one is found beneath the excelsior is quite content to remain there in a huddled up position for long periods of time. The ears are carried vertically with the opening in a somewhat forward condition. The ears while the animal is active, are continually quivering that is a shifting the opening in different directions to different bearing positions as if to catch all sounds. Preening of the coat was frequent. The lower incisors were used to comb out the fur about the genitalia by drawing the hind between the fore feet, pushing the incisors into the fur and then lifting them outward. The hind foot was also used for scratching the area back of the head (nape of the neck) in a fashion similar to that of a dog. While running about the cage both front + hind feet are used and it not a jumping gait with the fore feet held against the body. The mode of progress is not unlike that of typical rattus except it is not so quick due apparently to

Lorentzimys

the longer hind feet which are turned outward to an angle with the body (Body, angle of foot to body) Even in a resting position the angle is retained to a lesser degree. Frequently reaches to face with its hind feet. Accomplishes the desired climbing rapidly. It prefers to jump through the excelsior rather than spend time looking for an opening. Seldom reaches the top of the excelsior generally remains at a near the bottom. Frequently attempts to dig in one of the corners of the cage in an attempt escape. Just concluded a 1/2 minute attempt at jumping out of the cage. Have succeeded in jumping over 6 inches in height and generally about 4 inches. The jumps were repeated frequently

A board of a small tree cut and the many forked stick placed in the cage. This board seems perfectly to have climbing about the stick or on the wire mesh at the top of the cage. Both the front and hind feet are used in grasping the small limbs. That is they are opposable to each other. The tail is not used except possibly as a balancing organ. It is apparently used neither as a prehensile organ nor as an aid in support. The animal proceeds down the branch head first with apparently no difficulty. Have seen it on several occasions swing to a limb below by releasing its grip on the limb, grasp with one hind foot, and rather falling head first downward and catching the branch with the front feet. As soon as front feet are secure the hold with the hind feet to its previous position is relinquished.

Mar. 1 10 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 1500 m.

Following are notes on living caged individual. Activities when first observed consisted of a jumping and running type of locomotion about the bottom of

the cage. Now, this evening 8:00, this same animal is less active unless disturbed in some manner. It hunches up on top of the excelsior from lying and moves its head or twitches its ears only slightly and occasionally. The ear when touched with a wire rapid reaction of a movement of the head and sometimes body. It ears wide and then the attention to examination will move and vibrissae toward the front. Touching the vibrissae brings a rather slow reaction to the examination of the wire. The tail when touched lightly is ignored when pressed the animal turns about very rapidly for the wire examination. Reaction to light. When beast is settled in one corner of the cage and intensity of light is increased it apparently is negatively phototropic that is no reaction. However, when disturbed it seeks the darker portion of the cage in which it ~~can~~ is to settle down for its period of inactivity. Blow one's breath on the animal disturbs it slightly sufficiently to make it turn its head and twitch its ears. Rubbing the fur with the end of the wire is only ~~mildly~~ slightly noticed at first but as the rubbing continues it is seemingly disregarded. Preening is carried on periodically. The front and hind feet as well as the teeth are employed. With a very rapid forward kicking scratching motion the with the hind feet the shoulders, back of the head, upper portion of the back, and flanks are preened. The forefeet are used in preening the hair about the mouth by a clawing motion. They are also used in washing the face and in aiding the teeth in preening hair about genitalia and belly. The teeth, aside from that mentioned are employed in preening the area about the mid back. The preening can be stimulated by scratching the animal with the end of the wire. Hind feet are used in preening about vibrissae and in front of eye. Teeth used on hips. During a period of activity ~~when~~ the animal was looking for a means

Lorentzimys

of escape. Hoped several times that tops of excelsior. Spent most of the time crawling through excelsior not infrequently coming to the surface. It seems to punch its way through not digging or pushing the wood fibers aside with the fore paws.

Apr. 2 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 123 mouse traps. Brought in by collector. Taken in trap set in high fern below flood plain vegetation. Stomach contained remains of fruit.

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Mallomys

Aug. 30 Lake Habbema, Netherlands New Guinea. 3225 m.

1 in 22 stub traps. The traps were set near the bottom of a grassy sink hole 1¼ kilometers N NE of camp. There are a series of some 10 or sink holes ~~varying~~ strung out in a ~~n-s~~ east west direction. To the south of these holes is a patch of mossy forest with its bushy borders, to the north the swamp forest with open Libocedrus trees and a low mixed bushy undergrowth. The sink holes ~~varied~~ in width from 25 to 100 yd and from 50 to 400 ft deep. The vegetation of these forest skirted depressions was stiff grass at the bottom to ½ or more up the side with a heavy bunch grass dominant. The vegetation might be the higher with short grass and bare holes were present. The trap in which the beast was caught was set with 4 ft of the bottom where a vertical moss, herb, and grass covered limestone cliff formed a part of the ~~side~~ south wall of the hole. At the face of this cliff there were heavy bunch grass ~~clumps~~ clumps which completely hid a broad runway. ~~Along the~~ Such runways (about 6" in width) were ~~no~~ numerous though the bunch grass again forming a maze of runways rather than often a single directional one. At the bottom of these sink holes were usually openings which appeared to be used as ulcerate by these animals. 4 mammary glands (2 forward, 2 aft) set wide apart. No indication of young suckling in uterus.

Sept 11. 7 km NE Wilhelmina-top, Netherlands New Guinea. 3560 m.

1 in 12 stub traps. The trap was set in a runway up the side of a mossy sink hole. The hole was about 7 ft deep with irregular mossy sides. At one side above the hole was a large

patch of sub-alpine forest and to the other open grass land. There were trails about the forest as well as through the grass showing that some large animal did inhabit the region. Near by were two Pygmies got traps (dead falls). The stomach of the beast had a quantity of finely ground up plant material. Bruce on examining it with a hand lens believed it to be of herbacious plants rather than grass although some of the latter might be present. The testes were enlarged indicating that the animal was adult.

Nov 1 <u>Near NE Lake Habbema, Netherlands New Guinea</u> 2800 m.
1 brought in by native. This specimen came in with Pygmys and Pengets. They were quite possibly taken below, near the village of the native 2300 m.±. The tail of this beast was interesting in that it was curved dorsally in much the same manner as Pygmaeus but with a greater loop.

Nov. 5 <u>Near NE Lake Habbema, Netherlands New Guinea</u> 2800 m.
1 brought in by natives who according to their signs brought it down from above. They also had a pigeot which Rand says is a bird of timber like a figbird. This would seem to indicate that the beast, which is so similar to the Habbema sp., was taken at a much higher altitude.

Nov 8 <u>Bele River 18 km N Lake Habbema, Netherlands New Guinea</u> 2200 m.
1 brought in by natives. I have neglected to mention in the 3 previous ~~accounts~~ that the tail curled dorsally from a half loop to a loop and a half maximum.

Nov 9 <u>Bele R. 18 km N Lake Habbema, Netherlands New Guinea</u> 2200 m.
1 brought in by natives.

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Mallomys

Nov. 15 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives. Dorsally curved tail.

Nov 17 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
2 brought in by natives.

Nov 18 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 25 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 30 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec 2 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives.

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Melomys

June 14 Hollandia, Netherlands New Guinea.

Caught 1 individual in the 100 traps. It was caught in a runway beneath a low growing Pandanus plant. The hill slope was steep and poorly vegetated. The vegetation consisted of small, tree and semi-tree undergrowth. There was a rather thick mat of leaves covering the thin reddish brown stony soil. The only apparent evidence of mammals in this region was the short trail going no place and beginning no place, on which my small mammal might use in passing along beneath the underbrush rather than the Pandanus.

June 15 Hollandia, Netherlands New Guinea.

Caught another Melomys in the same vicinity and in the same type of surrounding as the above. It was not however caught beneath a Pandanus but rather in a small trail through a flour tangle of litter. Trails seem to be used only in the more difficult regions for these animals travel over.

June 16 Hollandia, Netherlands New Guinea.

Obtained these specimens from the 200 traps. They were taken in the hill set south west of Hollandia, from the same line that the previous ones were taken from. I did not remove them from the pit. The peculiar thing was that each of the skins had been gnawed into over the shoulders by another small animal. This gnawing was through the back just behind the shoulders, into the pleural cavity. One embryo was taken from one and two from the other two animals. These are preserved in alcohol. (Nos. 4013, 4014, 4015)

June 17 Hollandia, Netherlands New Guinea.

Caught 1 individual in the 200 traps. The trap in which it was caught was set at the edge of a grassy clump bordering a fairly secondary second growth forest. There are numbers of small paths through the clump and neighboring clumps that I assume are used by these animals. These animals cannot be very abundant however for there are approximately 75 traps set in just such places, having been set there for two nights. This forest is in the lower swampy flood plains of a small river to the north east of Hollandia. (½ kilometer). Three (3) large embryos were taken from the animal.

The native names for these animals are —

Tekus Kitchil — Malay
Pumglu — Sentani
Mesing — Tobati

June 18 Hollandia, Netherlands New Guinea

Caught 1 individual in the 200 traps. It was caught in a trap set in a little trail which skirted a little bay (indistinct trail). This was in a second growth forest which covered a hill slope. Beneath the forest proper there were clumps of brush or undergrowth, littered spots, and a few spots had a rather open forest floor. There were small jagged limestone outcrops which however do not offer shelter. The soil is a rich red laterite varying in depth and with a thin cover of leaves and humus.

June 24 Hollandia, Netherlands New Guinea

Caught 1 individual in the 391 traps. It was caught on the jungle floor where there is a rather thick undergrowth and litter. The trap was situated about ¾ mi. south west of Hollandia on a near the limestone ridge.

Melomys

June 25 Hollandia, Netherlands New Guinea.
Two individuals caught in the 391 traps. One was taken by the Papuan collector the other by the Dyak collector. They were both taken south west of Hollandia in a cut over rain forest. The specimen taken by the Dyak was badly eaten by ants before it was removed from the trap.

June 28 Hollandia, Netherlands New Guinea.
The Dyaks caught two individuals in their traps but were so badly eaten by ants that only the skulls were saved.

June 29 Hollandia, Netherlands New Guinea
The Papuan collectors found one of this species in the jungle during their daily hunt.

July 2 Hollandia Netherlands New Guinea.
Yesterday afternoon I found the decomposing remains of one of this genus. It was lying in the sand beneath a shelving rock 10 ft. east of the small river that flows south eastward back of the Hollandia town. The country in general was that of a rain forest through which, in a steep ravine, passed a boulder littered small river.

July 3 Hollandia Netherlands New Guinea.
See general account.

July 8 Hollandia, Netherlands New Guinea.
One caught in the 442 traps. It was taken in one of the traps set by the Papuan collector in the cut over jungle north of Hollandia. Its stomach was filled with a vegetable material resembling pulverized fruit.

Oct 12 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
3 (2 ♂♂) in 358 traps. The larger of the two species was taken in a trap set in the runway at the upper edge of a mossy clump about the base of a tree. The general region was that of a pandanus grove in the mossy forest. The (one individual) the smaller species was taken in the same pandanus grove in a trail through the mossy forest litter.

Oct 13 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
2 in 431 traps. Both individuals were brought in by collectors. Taken in mossy forest, and probably in runways in or near pandanus grove.

Oct 14 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m
1 in 431 traps. Taken in trap set in runway over the mossy ground cover of the forest. The conspicuous thing was the absence of litter in the immediate vicinity and the mossy ground cover through which the trail passed. The general region was that of the edge of a pandanus grove in the mossy forest.

Oct 15 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
3 in 431 traps. Three of the smaller species brought in by collectors.

Oct 16 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m
3 in 431 traps. The two smaller specimens (smaller sp.) brought in by collectors. Larger sp. taken in runway at the edge of a fallen log in the heavy litter of a pandanus grove in the mossy forest.

Oct 17 9 km NE Lake Habbema, Netherlands New Guinea 2800 m
1 in 431 traps. The smaller species was taken by collectors from their trap line. The larger was taken by a native. It had apparently been caught in a dead fall.

Melomys

Oct. 18 9 km. NE Lake Habbema, Netherlands New Guinea, 2800 m.
4 in 425 traps. The small species is fairly common in the forest undergrowth and litter, among covered logs etc.

Oct. 19 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 425 traps. Taken in runway through litter in open bushy undergrowth of the mossy forest.

Oct 20 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 220 traps. Taken in runway beneath moss covered rotting log.

Oct 21 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m
4 in 449 traps. The three smaller specimens of the smaller species were taken in runway through the litter in the bushy or pandanus areas of the mossy forest. The large sp. was brought in by collectors. It contained a stomach filled with the fleshy parts of fruit, fungus and the like.

Oct 22 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 418 traps. Taken in bushy thicket of the pandanus grove in mossy forest.

Oct 23 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
2 in 418 traps. The smaller species taken in open mossy forest with bushy undergrowth and litter. The other, the large species, was brought in by collectors.

Oct 24 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
2 in 414 traps. Taken in open mossy forest where there is a quantity of litter and undergrowth.

Oct 25 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 414 traps. Brought in by natives. It was apparently taken in a dead fall from the flattened appearance of the beast. It was probably taken at a lower altitude.

Oct 26 9 km N C Lake Habbema, Netherlands New Guinea 2800-2700 m.
6 in 409 traps. The (Acomatus) species seems to prefer the type of habitat in which there is an undergrowth of bush as well as litter on the floor of the mossy forest. Occurs both in mossy forest and second growth along the bush edges of the stream side.
#5239 a new species for the camp was taken from a trap set in a runway of the base of a log in a brushy littered spot of the edge of the second growth of mossy forest.

Oct 27 9 km N C Lake Habbema, Netherlands New Guinea 2800 m.
1 in 413 traps. Specimen taken in trap set in runway beneath mossy log in the undergrowth of the mossy forest

Oct 28 9 km N C Lake Habbema, Netherlands New Guinea 2700 m
2 in 413 traps. Brought in by collectors.

Oct 29 9 km N C Lake Habbema, Netherlands New Guinea 2700 m
2 in 413 traps. Brought in by collectors.

Oct 30 9 km N C Lake Habbema, Netherlands New Guinea 2800 m.
3: 2 caught in 413 traps, 1 brought in by a native.

Oct 31 9 km N C Lake Habbema, Netherlands New Guinea 2800 m.
3 in 413 traps. One individual taken in trap set in trail through littered undergrowth of the same "mossy forest". The other 2 were brought in by natives.

Nov 1 9 km N C Lake Habbema, Netherlands New Guinea, 2800 m
2 in 413 traps. Brought in by collecting boys.

Nov 2 9 km N C Lake Habbema, Netherlands New Guinea 2700 m
1 in 197 traps. Brought in by collectors.

Nov 3 9 km N C Lake Habbema, Netherlands New Guinea 2700 m.
1 in 257 traps. Brought in by collectors

Melomys

Nov 4 9 km. NE Lake Habbema, Netherlands New Guinea 2800-2700 m.
3 in 347 traps. #5351 taken near the stream in the heavily litter of the mossy forest. The trap was set in a small runway about the end of a fallen log. #5352 taken in an open runway through over the fallen leaves covering the floor of the same forest. The other individual brought in by natives collectors.

Nov. 5 9 km NE Lake Habbema, Netherlands New Guinea 2800-2700 m.
4 in 347 traps. The larger species being taken in runways through undergrowth on open forest floor. Conditions usually moist. The smaller species taken in the littered undergrowth of the mossy forest.

Nov 6 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives.

Nov. 7 Bele River, 18 km. N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov. 8 Bele River, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2:1 in 218 traps, #5393 brought in by natives. The individual taken in trap was caught in mossy through forest litter at the edge of a land slip.

Nov 9 Bele River, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4:1 in 308 traps, 3 brought in by natives. The individual taken in trap #5415 was trapped in the litter, beneath a log in the heavy forest. Scattered bits of undergrowth in this vicinity.

Nov 10 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
6:4 brought in by natives. 2 taken in 308 traps.

Nov 11 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
7:1 in 308 traps. 6 brought in by natives.

Nov 12 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5:1 in 308 traps 4 in by natives.

Nov 10 Bele River, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 29 stick traps 308 wooden traps. Brought in by collecting ~~boy~~ boy. Taken in forested area.

Nov 14 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
12 brought in by natives.

Nov 15 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
19: 2 in 416 traps, 17 brought in by natives
Those in traps #5614 + #5615 were taken by collectors in the heavy forest.

Nov 16 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
6: 4 brought in by natives 2 in 416 traps.
#5653 and #5654. Taken in forested region.

Nov 17 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
17: 15 brought in by natives. 2 taken in 416 traps
#5693 + #5694 brought in by collectors from forested area.

Nov 18 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
27: 26 brought in by natives. 1 in 416 traps. #5765 taken in forested area. The series prepared today showed clearly that the what I believed especially to be two sp. in sexual differences. The ♂ tail, when adult is light colored (whitish) ventrally and gray-brown colored dorsally. The ♀ on the other hand, when adult, is dark gray-brown colored dorsally and ventrally and the tail scales appear to be more pronounced. The young in both cases resemble that of the ♂

Nov 19 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
22 brought in by natives.

Nov 20 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
20 brought in by natives.

Nov 21 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
16 brought in by natives.

Melomys

Nov 22 Bele R, 18 km N Lake Habbema, Netherlands New Guinea 2200 m
15: 13 brought in by natives, 2 taken in 404 traps.
These in traps were taken in small clearings through the open undergrowth and litter on the leafy forest floor.

Nov 23 Bele R, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
23: 22 brought in by natives; 1 taken in 404 trap.
The latter was taken in a forested area where there was little undergrowth of fern and scattered litter. The trap was set in ill-defined trail beneath the roots of a Podocarpus.

Nov 24 Bele R, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
16 brought in by natives. One individual, a young male not yet up to breeding, was taken in trap set in forested area where there was an open leafy undergrowth, and scattered litter.

Nov 25 Bele R, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
18 brought in by natives. One specimen, female, of the small forest species was taken in a small runway through the open undergrowth of the same forest leafy ground cover.

Nov 26 Bele R, 18 km N Lake Habbema, Netherlands New Guinea 2200 m
4 brought in by natives.

Nov 27 Bele R, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
12: 11 brought in by natives; 1, #6172 in 404 trap.
Taken by collector in open forested area with ground cover of leaves and litter and open undergrowth.

Nov 28 Bele R, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 albino brought in by natives.

Nov 29 Bele R, 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
8 (2 discarded) in 411 traps. This habitat seems to be that of the large forest

where there is undergrowth, usually rather thin, litter and a leafy covered forest floor. They are caught in traps set in runways over the leafy forest floor, and about the litter and among the bases of the brush.

Dec 1 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 399 traps. Taken in some forest where there was an undergrowth of climbing bamboo and rotan dominated the shrubs. Leafy forest floor and scattered logs and small litter.

Dec 2 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
23: 19 brought in by natives, 4 taken in 399 traps. Of the two specimens which I removed from the traps (1 large ♀, 1 small ♂) both were taken in forest undergrowth where there was litter accumulation and a leafy forest floor.

Dec 3 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Dec 9 Baliem R., Netherlands New Guinea 1600 m.
1 brought in by natives.

Dec 10 Baliem R. Netherlands New Guinea 1600 m.
11 in 199 traps. Taken in several types of cover, that of solid cane grass along a small road, in the thick grass of the abandoned gardens, and the mixed grass, cane grass and shrubs along a road. There are indistinct runways. One nest, apparently of this species was found about 2 ft off the ground in a very thick clump of grass. It was a ball of grass some 4 or 5 inches in diameter with a circular entrance at the bottom and another near the top. There was no lining, just a ball of grass blades.

Dec 11 Baliem R. Netherlands New Guinea 1600 m.
18 in 384 traps. Taken in a short abandoned gardens where the heavy vegetation consist of mixed grasses and brush. Usually in obscure runways.

Melomys

Dec 12 Balim River, Netherlands New Guinea 1600 m.
9 in 380 traps. Taken in a short old garden where there is ~~a~~ grass a mixed grass and brush cover vegetation. The mixed cover seems to be preferable.

Dec 13 Balim R. Netherlands New Guinea 1600 m.
9: 1 in 380 traps. Brought in by collectors. 8 brought in by natives.

Dec 14 Balim R. Netherlands New Guinea 1600 m.
4: 3 in traps (370). 1 in by natives. Those in traps were taken in grassy cover with canopy of casuarina or fig. Special note should be made of #7211 which was taken in trap set in obscure runway through the grass at the lip of the river bank. Here there is an open growth of casuarina and fig trees as well as scattered clumps of cane grass.

Dec 15 Balim R. Netherlands New Guinea 1600 m.
10: 3 by natives. 7 in 370 traps. Those taken in traps (both sp.) were taken in grassy patches along the river bank. Rattus is taken in similar spots but its habitat seems to be on a more open grassy area while that of Melomys is near or ~~at~~ among brush areas, rock outcrops, and second growth forest.
Several days ago one of the smaller species was taken in a trap set in a fig tree some 3 ft above the ground. The tree contained ripening fruit.

Dec 16 Balim R. Netherlands New Guinea 1600 m.
6: 1 by natives, 5 in 357 traps. 4 of the 5 were taken on a hill slope, an old garden clearing with rocks, grass and scattered low growing bushes.

Dec 17 Balim R. Netherlands New Guinea 1600 m.
2 in 357 traps. 1 individual caught on a grassy hill slope with numerous boulders and limestone outcrops.

1939

Dec 18 Balim R. Netherlands New Guinea 1600 m.
3 in 357 traps. Brought in by collectors.

Dec 19 Balim R. Netherlands New Guinea 1600 m.
1 in 357 traps. Brought in by ~~natives~~ collectors

Jan 10 15 km SW Beerland Camp Idenburg River, Netherlands New Guinea 1800 m.
2 in 232 traps. Taken in the mossy forest. One individual in a trap set beneath an open shrub on a very mossy forest floor. The other was taken beneath a clump of roots at the base of a tree. In each case the traps were set in an obscure runway. The forest were heavy — scattered large trees, with thick second story and scattered undergrowth. Much litter in the region such as fallen and decaying trees.

Jan 11 10 in 425 traps. This included 3 species. The larger sp. was brought in by collectors who say it was caught at the edge of a fallen log near a hole which went under said log. The general area is that of mossy forest with moderately thick second-story growth and scattered undergrowth among the moss covered debris of fallen logs. The two smaller species were taken in practically identical habitats as near as I could determine that is the mossy forest under logs, about brush and over open moss covered forest floor. There seems to be a slight tendency for the grey sp. [Pseudohydromys] to inhabit the more open areas while the brown seeks cover of logs, brush, etc.

Jan 12 5 in 425 traps. Of the two small species taken in this vicinity the gray sp. [Pseudohydromys] seems to inhabit the mossy forest floor where there is cover of undergrowth. The small brown species inhabits the area of more litter being taken frequently beneath logs or about the bases of trees with exposed areas roots. It in this respect tends to inhabit somewhat similar habitats of Stavomys

Jan 14 1 in 425 traps. Brought in by collectors.

Melomys

Jan 15 15 km SW Burnham Camp Idenburg R. Netherlands New Guinea 1800 m.

6 in 420 traps. Both species were taken in more or less protected spots, that is cover, such as beneath logs, about stumps, and under or about root bases of trees. This may be due to the heavy rain which necessitated that the animals search for food as well as travel in the dry areas. The larger species in particular was in each case taken in small runways beneath more covered logs. These runways were completely draped in by moss hanging from the sides of the logs, with the only elsewhere small opening at which the traps were set.

Jan 16 5 in 420 traps. Brought in by collectors.

Jan 17 5 in 419 traps. A majority of the individuals taken today were caught in small runways through small bush thickets or litter.

Jan 18 1 in 421 traps. Taken in runway on mossy forest floor at base of large tree. Undergrowth in immediate vicinity.

Jan 19 1 in 421 traps. Brought in by collectors

Jan 20 2 in 421 traps. The large sp. was brought in by collectors. The small brown species was taken in a small runway at the edge of an undergrowth thicket in the moss forest.

Jan 21 2 in 421 +28 traps. One individual brought in by collectors the other taken in stubbing set in runway beneath a fallen log. The path appeared to be well used and quite probably by some larger mammal such as Tenrycteus. The area in general was that of a littered mossy forest floor.

Jan 22 1 in 421 traps Brought in by collectors.

Jan 23 1 in 421 traps " " " "

Jan 25 1 in 28 still traps " " " "

Jan 26 2 in 419 traps. Taken among brushy litter in a small runway over the forest floor.

Jan 27 1 in 228 traps. Brought in by collectors.

Jan 28 1 in 228 " " " " "

Jan 29 " " 228 traps Brought in by collectors.

Jan 30 1 in 228 " " " " "

Feb 1 ~~18 km SW Burnland Camp Idenburg R. Netherlands New Guinea~~ 2150 m.

1 in 143 traps. ~~set~~ Caught in trap set in small runway over the ~~moss~~ moss at the base of shrubs on the steep ~~or~~ brushy hill slope. This brushy habitat is peculiar to a small area about the top of a hill. It is on a very steep rocky slope where soil and climat apparently prevent ~~mo~~ typical mossy forest conditions.

Feb 2 2 in 227 traps. The smaller sp. was taken in the same trap so the individual taken on Feb. 1. The larger species taken in a rather low mossy forest. Heavy moss covering trees and steep hill slope.

Feb 3 1 in ~~225~~ 227 traps. Brought in by collector.

Feb ~~7~~ 5 2 in 411 traps. Taken in obscure runways over the forest floor near or at the edge of littered spots. Habitat is mossy forest with undergrowth of bamboo.

Feb 6 1 in 411 traps. Taken in runway over the forest floor through a rather dense thicket of bamboo. Habitat Mossy forest with bamboo undergrowth.

Feb. 7 2 in 411 traps. ~~Brought in by collector~~. Small species taken in gen forest runway in the bamboo thicket, undergrowth of the mossy forest. Rel. Large sp. taken at the edge of a log in runway. Habitat mossy forest with bamboo undergrowth.

Feb 8 1 in 411 traps. Brought in by ~~other~~ collectors.

Feb. 14 ~~4 km SW Burnland Camp Idenburg R. Netherlands New Guinea~~ 1200 m.

2 in 185 ~~mouse~~ traps. Brought in by collectors. Badly ravaged by ants.

1 in 223 rat traps. Brought in by collectors.

Feb. 15 Open forest runway. Stomach contained fruits and green vegetation. There were only 2 mammary glands present, no trace of the others. These two were enlarged and lactating. No signs of ent.

Feb. 19 1 in 223 traps. Brought in by collector.

Feb. 20 1 in 223 traps. Taken on forest slope with heavy undergrowth and litter.

Melomys

Feb. 21 ~~6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea~~ 1200 m.
2 ~~stat~~ in 223 rat traps. Brought in by collectors. The small species had 4 mammary glands, the large species only 2.

Feb. 23 4 (2 ♀♀) in 221 traps. The male of the smaller species taken in open runway over forest floor through area of scattered undergrowth. The other 3 specimens brought in by collectors.

Feb. 26 1 in 17 steel traps. Brought in by collectors. Testes small.

Feb. 28 1 in 220 rat traps. Taken in forest runway. Habitat was that of heavy undergrowth and second story vegetation. The actual forest floor was quite open, ~~and~~ but littered with occasional log etc. Stomach contained remains of fruit.

Mar 1 2 in 217 rat traps + 17 steel traps. The large species brought in by collectors. Stomach contained remains of fruit. 2 mammary glands only. The smaller species was taken in a very brushy thicket ~~near~~ a ~~land~~ slip which yielded no little food as fallen trees bamboo etc. The head had been eaten though apparently by some other mammal.

Mar 3 4: 3 in 217 rat traps + 173 mouse traps. 1 picked up dead by one of Bonds collecting boys. The two ~~small~~ specimens of the small species were taken in mouse traps 1 set at the base of a large forest tree and the other at the edge of a fallen log. Both in semi-protected runways ~~that~~ with undergrowth and litter acting as cover. The two are possibly different species. The 1 specimen of the large species taken in rat traps. Brought in by collector. No ent. Two mammary.

Mar. 4 1 in 27 steel traps. Brought in by collectors. Fruit remains in stomach.

Mar 5 5 in ~~242~~ 172 mouse traps, 217 rat traps, 27 steel traps. Brought in by collectors. The stomachs of the large species contained fruit remains. The stomach of the smaller species green vegetation (leaves + shoots) as well as fruit.

Mar. 7 4 km. SW Bernhard Camp Idenburg River, Netherlands New Guinea 850 m.
4 in 388 traps. Brought in by collectors.
Both specimens contained remains of fruit in stomachs.
Mar 8 1 in 388 traps. Brought in by natives.
Stomach contained fruit remains.
Mar 9 3 in 388 traps + 141 snares. Brought in by collectors.
Mar. 10 1 in 388 traps. Brought in by collectors.
Mar 12 2 in 388 traps. Brought in by collectors. Mammary formula for large species 2 (1 pair) pectoral. For smaller sp. 4 (2 pair) pectoral.
Mar. 13 1 in 388 traps. Brought in by collectors. Stomach contained remains of fruit. Enlarged testes on autopsy; no apparent ent. 4 mammae.
Mar. 14 1 in 388 traps. Brought in by collectors.
Mar. 15 1 in 442 snares. Brought in by collectors.
Stomach contained remains of fruit.
Mar. 16 1 in 209 net traps. Brought in by collector. Skin spoiled by ants.
Mar. 17 1 in 155 mouse traps. Brought in by collectors.
Stomach contained remains of fruit. No ent. 4 mammae.
Mar. 18 2 in 364 traps. Brought in by collectors.
No ent. Stomach contained fruit remains in ridge
Mar. 19 1 in 364 traps. Brought in by collectors.
2 ent.. Stomach contain fruit remains.
Mar. 20 4 in 359 traps + 27 stub + 643 snares. Brought in by collectors.
Mar. 21 1 in 670 snares. Brought in by collectors.
Mar. 22 1 in 27 stub traps. " " "
Mar. 23 2: 1 in 359 traps; 1 caught in insect net.
The specimen taken in traps was brought in by collectors. Althoff the assistant of Dr. Forgeus caught an adult ♂ in insect net. According to him it was running along the edge of camp clearing. This evening I also saw one come out from beneath the dinding room floor and and run along the camp clearing at the rivers edge. The gait was a run and not a jumping as might be expected, however, it might have resorted to jumping had it been disturbed.

Melomys

Mar. 24 4 Km. SW Bunbaed Camp Idenburg R. Netherlands New Guinea 850 m.
3 in 359 traps Brought in by collectors.

Mar. 25 4 Km. SW Bunbaed Camp Idenburg R. Netherlands New Guinea 850 m.
3 in 357 traps. The small sp. taken at the edge of a rotting log in a littered area, with moderately dense undergrowth and second story and scattered large forest trees. Area at the edge of the Agathis forest. The trap was placed in a runway at the edge of the rotting log. Large species in a runway through - undergrowth thick. Habitat moist hill slope with dense patches of undergrowth; moderately thick second story and scattered large trees. The medium sized sp. (indicates new for the collection) was brought in by a collector. Habitat is the moist condition with heavy vegetation and thick second growth along the banks of the stream close camp. Actually the trap line was set along upper bank of the river and the lower edge of the flood plain. Stomach contents of large species contained remains of fruit; of med. species fruit, green vegetation, and several orts; of small species fruit remains.

Mar. 26 4 in 327 traps + 832 snares. One of the small species was taken from the traps tended by me. Habitat is second growth forest close the flood plain where the undergrowth and litter is abundant. The other 3 individuals brought in by collectors. The ent. is 9.

Mar. 30 1 in 207 set traps. Taken in Agathis forest with rather heavy undergrowth and leaf litter. Trap was set in runway.

Mar. 31 4 in 332 traps, 27 stick traps, 931 snares — 3 brought in by collectors. a 7762 taken in runway through the undergrowth. The trap was set at upper edge of the river bank where it joins the flood plain. Rather heavy undergrowth and flood plain vegetation. Stomachs of the two prepared specimens contained fruit remains. The small specimen in alcohol, had a pendonus seed in mouth when

traps. This particular trap was set near the fruit which had fallen with the hopes of catching such animals as fed upon these fruits. These fruits are eaten by fruit bats as well as bandicoots.

Apr. 1 4 km. ~~W~~ SW Bernhard Camp, Idenburg River, Netherlands New Guinea 850 m.
1 in 27 stub traps. Brought in by collectors.

Apr. 2 1 in 330 traps. Taken in small runway through undergrowth of the flood plain vegetation bordering the river bank.

Apr. 3 1 in 987 snares. Brought in by collector.

Apr. 5 1 in 203 rat traps. " " " "
Apparently juvenile; testes not enlarged.

Apr. 6 4 in 295 traps + 1075 snares. Brought in by collectors.

Apr. 7 4 in 295 traps + 1075 snares. Brought in by collectors.

Apr. 9 Bernhard Camp, Idenburg R., Netherlands New Guinea 80 m. - 50 m.
1 in 346 traps. Habitat - Rocky river wash, leaf litter, scattered undergrowth, heavy canopy of small trees.

Apr. 10 1 in 346 traps. ~~Sa~~ Taken in similar place as specimen of Apr. 9. except ~~tall~~ less undergrowth, rather open forest floor, except for rotting log litter.

Apr. 20 1 killed in "godown" (storeroom) at main camp.

Apr. 22 1 in 29 snares traps. Brought in by collector. Taken on lower mountain slopes above flood plain.

Apr. 27 1 in 250 rat traps. Taken on narrow strip of land at the edge of the flood plain. The rising water has ~~been~~ covered most of the lowlands with water having only small areas exposed. The ground is very moist and will probably inundated in several days.

Apr. 29 1 in 234 rat traps. Taken on forested lagoon edge. Trap set on moist forest floor. Area subject to inundation.

Melanesia

Apr. 30 Bernhard Camp Idenburg River Netherlands New Guinea 50 m

I taken in goodroom (storehouse) It apparently had been there for some time for it had a crudely constructed nest in a black box which had been used for radio parts.

May 5 I taken in 223 traps. Taken on the east side of the river along the inner edge of the cane ~~too~~ thickets. For the in little deposited by high water, small patches of grass, scattered trees, and head champas.

Wm B. Richardson
1938
1939

Miniopterus

July 5 11 km. S.E. Hollandia, Netherlands New Guinea.

The cave from which these bats were taken is a large hole cut in the limestone sea cliff by the action of the waves. There were a number of caves along the cliff but only one, the largest one, was visited. We entered the cave by prow and without artificial light. Literally hundreds presumably of this species could be seen. They were clinging separately to the sheer wall face. Our presence and shooting soon disturbed them and they either retreated to holes in the cliff or flew about the room. There were two other genera of bats in the same cave. — Dobsonia and Myotis

July 8 1½ km S Ajapo, Sentani Lake, Netherlands New Guinea.

Two of this species of bats were brought in today by one of my Papuan collectors from the vicinity of his coppery, Ajapo, on Sentani Lake. According to his story they were taken from a cave. Besides this two sp. of bats there was Myotis sp.

July 14 Hollandia, Netherlands New Guinea.

The specimen prepared today was one of four brought in by a native from Tabati.

Dec 19 Balim R., Netherlands New Guinea 1600 m.

I shot yesterday evening. It was flying relatively early about the tops of the casuarina trees. The flight was swift, with few breaks and yet it was apparently feeding.

Jan 14 15 km SW Bernhard Camp, Idenburg R., Netherlands New Guinea 1800 m.

I taken by Altoff yesterday evening as it was flying about the insect lamp. Fox-pipes has removed 4 or 5 sp. of insects from the individual. Bats have been seen several evenings flying within several yards of the lamp and on one occasion the bat

was seen capturing and eating, with the exception of the wings, a sphinx moth.

Jan 19 1 shot last evening by collecting boy. It was flying low (10-20 feet above the ground) over camp. It has a swift quick breaking flight. It rarely begins long at any one spot or doubles back in its direction of flight but rather continues rapidly along in a more or less determined direction. Judging from the flight made this bats are quite common here appearing early in the evening and continue flying as late as we can see (6:35 to 7:10). 2/3 of the numbers seen here must be of this species.

Feb. 14 6 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.

1 shot yesterday evening. It was flying high 3/4 distance up the tree. Apparently feeding in small open spaces among the lower foliage of the tree tops.

Feb. 16 2 shot yesterday evening, one by Reed and the other by Schrader. Only one contained ent. These bats were foraging about mid-height across ~~or the~~ narrow camp clearing. Moderately swift flight with few breaks.

Mr. 4 2 shot by Reed. Flying about 50 ft above the ground in a narrowed portion of the camp clearing.

Ap. 22 Bernhard Camp Idenburg R. Netherlands New Guinea 50 m.

1 shot yesterday evening by Reed.

20. Mrs B. Richardson
1938

Mus

June 14 Hollandia, Netherlands New Guinea. (85F)

One young animal was purchased from a boy who was keeping the little beast to amuse his savage fancies. About one of the hind feet of the animal was tied a piece of grass string and to the other end a piece of paper and as the beast scampered away the paper would flutter over the ground adding much to the pleasure of the young natives.

Wm. B. Richardson
1938

Myotis

July 5 11 km SE Hollandia, Netherlands New Guinea

Shot 1 of this genus in a long lime stone cave at in a sea cliff. This genus was the rarest of 3 genera seen in the cave. Although we could not identify them for certain the one obtained had a slower steadier wing beat and a lighter coloration than the common Miniopterus. Several (4) other were seen with a similar flight. Two other genera were seen in this cave Miniopterus and Dobsonia (See species notes of these forms)

July 8 1½ km. S Ajapo, Sentani Lake, Netherlands New Guinea

One of my Papuan collectors returned from his company, Ajapo, with a box of bats. This species was taken in quantity. There were 4 and 3 of two species of Miniopterus in the same box. According to his story they were taken in a cave.

July 11 Hollandia, Netherlands New Guinea.

A local Papuan came in today with seven bats of this species. According to him they were taken from the native houses of Ingrow.

July 14-16 Hollandia, Netherlands New Guinea

These two specimens were brought in by local natives. Do not know the exact locality.

Oct 18 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.

One individual taken by one of Toscopan collecting boys. It was caught in an insect net while flying about the insect lamp.

W. B. Richardson
1939

Nyctimene

Mar. 22 4 Km. SW Bunford Camp Idenburg R. Netherlands New Guinea 850 m.

I shot yesterday evening while out jacking. It was seen with spotlight flying about a fruiting Eugenia tree, a common tree of the flood plains. Its flight was very slow and sometimes it seemingly poised while in flight. It was not seen while on the tree but only in flight about its upper fruiting branches. No ecto. No food in stomach.

Wm. B. Richardson
1938

Peroryctes

Aug 18 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 21 stick traps. This individual was taken in trap set 1 block north north east of camp 50 yards inside a heavy mossy forest. The trap was set some well a two ago along this trail beneath a small rocky ledge. This trail went down a rathy steep bank where it exhibited claw marks of some mammal. There was moss on the ground except where the claws had scratched it bare. The forest here was thick with many low branches and a heavy low (20 ft high) canopy which gave one the appearance of a very large bush thicket rather than forest for there were actually only a few large scattered trees. The branches and all the lower limbs as well as the ground was covered with moss and its associate plant.

Sept 12 2 km. NE Wilhelmina-top, Netherlands New Guinea, 3560 m.
1 in 20 stick traps. The individual was taken in a small mossy hollow two patches of sub-alpine forest on a hill top west of camp. The intervening space was vegetated with a few bush clumps, scattered grasses and herbaceous plants. Small mammals as well this beast was taken in are quite common about the borders of the forest. ~~xx~~ in the edge. With this are it be found numerous rootings, places where the moss and low growing vegetation has been cleared or rooted up as if the animal was in search for terrestrial insects. There are also holes in the ground 4-7 inches deep and 2½"-4" diameter which are presumably made by this animal. There was nothing in the stomach.

Sept. 15 2 km. NE Wilhelmina top, Netherlands New Guinea 3560 m
1 in 151 rat traps. Individual caught in trap

set in a runway through - dense grass thicket between (2ft) small patches of soft bract and mossy forest.

Sept 16 2 km. NC Wilhelmina top, Netherlands New Guinea 3560 m.

1 in 20 steel traps. The specimen was brought in by collectors who said it was taken in a trap set along the ridge NNE of camp. To the far side is a patch of set-down forest coming up to the divide and to the near side an grassland. It was in a trail through where the grassland meets the forest that the animal was caught. The ridge is about 3800 m. high. Our mammary gland was much enlarged indicating that it has recently been suckling young.

Sept 21 2 km. E Mt. Wilhelmina, Netherlands New Guinea 3950 m?

1 in 104 traps. Specimen was taken upon or in a small saddle on the mountain slope south of camp. There was a heavy growth of bract grass (and the roots) forming a mat over the old lime stone tablets. There were numerous roots protruding above the grass and scattered Cyperosma bulbs. Numerous signs (diggings) are seen about the hill slopes where there is a heavy vegetation of grasses.

Sept 22 2 km. E Mt. Wilhelmina, Netherlands New Guinea 3850 m.

1 in 104 traps. This individual was brought in by collectors who said it was taken in steel traps set in a large runway through the head of a stone slope where they had accumulated large boulders which have through time been partly overgrown with long bract, moss and herbarium plants.

Wm. B. Richardson
1938

Peromyscus

Sept 27 2 km E Mt. Wilhelmina, Netherlands New Guinea 3900 m
1 in 104 traps. Brought in by collectors. Taken in region similar to that described in Sept 22 notes.

Oct 14 9 km NE Lake Habbema, Netherlands New Guinea, 2800 m.
1 in 157 traps. Taken in runway beneath a mass covered by litter of the mossy forest. The runways of the animal are quite common although up to date I have only taken one individual. This is the animal that the natives eat when dead falls fer.

Oct 29 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives. It was an old specimen which quite possibly was brought in from some distance probably below.

Nov. 1 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives. Probably comes from below 2300 m ±.

Nov 12 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 13 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 14 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 15 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives. The larger of the 2 had 1 functional mammary gland.

Nov 16 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov 17 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives

Nov 18 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives.

Nov 20 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 21 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 22 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 23 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 24 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
7: 6 brought in by natives. 1 in 206 net traps. Individual taken in running ~~down~~ over the leafy surface of the open sama forest.

Nov 25 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov 26 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov 27 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives. Yesterday while tending traps ~~the~~ a native showed me what he said was a nest or room of one of the animals. It consisted of a hole in the earth, some 4½ in in diameter and at an angle below the base of a small tree. It went in for at least 3 ft and then I believe joined other with tunnels or burrows. The entrance was plugged with moss some six inches in depth.

Nov 28 Bele R., 18 km N Lake Habbema, Netherlands New Guinea, 2200 m.
3 brought in by natives.

Pteropetes

Nov 29 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 30 Bele R. 18 km. N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives. The pouch of the best specimen posteriorly. It is a small pouch just enough to contain the young with little room to spare. It is not the large sac like pouch of the phalangers. If no young is present the pouch seems to retract until there is little remaining other than a small anterior flap (5 mm.) which leaves the a narrow opening.

Dec 2 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec 3 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives.

Jan 11 15 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1800 m.
1 in 28 steel traps. Trap set in runway beneath a spreading net system of overall long tree. The large roots of the tree which had at one time spread out over the earth surface were now undermined leaving many runways, the upper surface being covered with litter and supported by roots. There are frequent exits and entrances and it was at one of these that the animal was taken. The uterus enlarged but there was no signs of young.

Jan 14 1 in 28 steel traps. Brought in by natives. Taken in large ~~surface~~ trust log runway in mossy forest.

Jan 19 2 (1 Juv.) in 28 steel traps. Taken in runway beneath a fallen log. Mossy forest. The juvenile was not attached to the teat although the ♀ was alive. There were 4 teats only 1 of which was functional. The pouch has rather a large opening, that is large enough to easily extract the young. It opens posteriorly from a pouch which measured about 50 m.m. in depth. Total

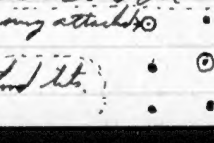
these animals are caught without young there is no evidence of a pouch but only a slight depression containing the teats and the modified hair.

Jan 21 15 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1800 m.

1 in 229 rat traps. Brought in by collector. The pouch area is present measuring 7 x 5 mm. The 6 teats ~~at~~ within this area are very small, little more raised on the skin. There is a slight tendency toward the formation of a pouch. The anterior edge of the pouch there is a small fold about ½ mm which extends backwards for about ½ the distance of the pouch area.

Jan 13 1 in 28 stub traps. Brought in by collectors.

Jan 26 1 in 28 stub traps. Brought in by collector. The adult ♀ had in its pouch a juvenile, the most immature young of a marsupial that I have yet seen. The strange thing to me is that the pouch was large, very large for such a small beast. I had previously thought that the pouch of marsupials tended to enlarge or grow from the time of the birth of the young and at all times it was ~~at all times~~ little more than large enough to hold the young. This however is apparently not the case with this marsupial for both the pouch and the opening were so very large that it would be seemingly necessary for the young during its early stages of pouch development. Perhaps this large pouch + opening is to facilitate the young finding its way to the teat. The pouch ovoid in shape unstretched measured ~~28~~ 60 mm long x 40 mm wide. The posterior opening to the pouch measured unstretched 25 mm long x 15 mm broad. The distance between the vagina (cloaca) and the lips of the pouch measured 11 mm. The arrangement of the teats and their approximate distance from each other is shown in diagram to left. The young was firmly attached to one of the 2 functional teats.

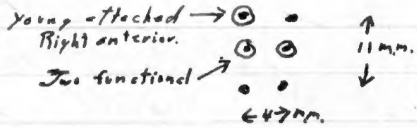


Perameles

Jan 28 1.5 Km S W Bernhard Camp Idenburg R. Netherlands New Guinea 1800 m.

1 in 17 steel traps. Taken in runway beneath a log. The runway of these animals keeps as much as possible under cover of log, rock, or litter. This beast was in the same traps as that one taken on Jan 26.

Jan 29 2 (1 Juv.) in 17 steel traps. Taken in runway beneath fallen log. This female like the one taken on Jan 26 had a young in its pouch. Here however the young was slightly larger. (see detailed specimen). The opening of the pouch seems to be little more than a longitudinal slit rather than the oval opening as indicated on specimen of Jan. 26. Length of this slit-like opening of pouch 27 m.m. Distance of pouch from vagina 12 m.m. Distance from vagina to tit to which young is attached 33 m.m. Pouch measured 60 m.m. long by 43 m.m. broad. The following is a diagram of tits



It is of interest to note that the young in this case as in the one of Jan 26, was attached to the anterior right tit, and that the middle left tit was in each case functional. With this specimen the middle right tit also functional. These two usual functional tits however are smaller than the one to which the young is attached showing degeneration toward the non functional one make as the diagram as black tits.

Jan 30 1 in 17 steel traps. Taken in large runway through the open forest. It apparently a beast, unlike the smaller sp., which inhabit the open less litter areas of the forest. The larger legs, larger digits, stouter claws, stouter tail, finer textured hair, the lack of dorsal or hip stripes are all external characters which separate from the smaller species.

Feb 2 18 Km S W Bernhard Camp Idenburg R. Netherlands New Guinea 2150 m.

2 in 17 steel traps. Brought in by collectors who said they were taken in runway beneath fallen logs.

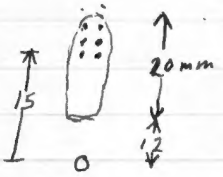
Feb 3 18 km SW Bernard Camp Idenburg R. Netherlands New Guinea 2150 m.

1 in 17 steel traps. Taken in open runway over the forest floor. Habitat was that of many forest red bamboo, the latter apparently attributing to the increase in mossy conditions. This species is apparently a thing of the open forest (terrestrial) rather than a bank needing cover of logs etc. as the dorsal striped species found in this same area.

Feb. 5 1 in 27 steel traps. Brought in by collector. Habitat Mossy forest with bamboo undergrowth.

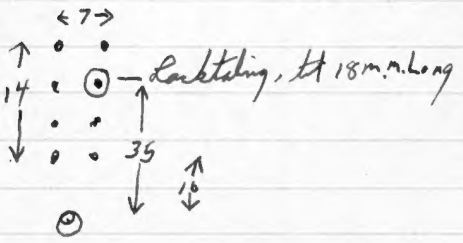
Feb 14 6 km SW Bernard Camp Idenburg River, Netherlands New Guinea 1200 m.

3 (1 juv.) ♂♂ 27 steel and 234 rat traps. — The large ♂ with juvenile brought in by collector. The said female dies in trap and a distance of about 1 yd was the young still alive and moving feebly. The smaller ♀ taken in rat trap set in an open forest runway; that is there was no cover and a log or little but rather it was a trail through the undergrowth and rotten over the leafy forest floor. Following is diagram of the pouch.



The posterior pair of teats (8 in all) were concealed by a 7mm flap of skin extending posteriorly. No signs of lactation or end.

#7498



The total length of the pouch was 168 mm long with apparently room enough to contain the young. Only 1 tit of the 8 lactating. The opening of the pouch, a radial slit measured 25 mm but could be stretched to 50 mm.

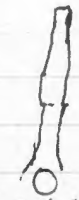
#7499

Perameles

Feb. 21 6 km SW Burhard Camp Idenburg R., Netherland New Guinea 1200 m.
1 in 105 snares. Brought in by collectors. Stomach contained the remains of insects and grubs, as well as what appeared to be ant eggs.

Feb. 25 2 in 134 – snares – 1 brought in by collectors. The other #7543 I examined & when in traps. Taken in snare set along small runway over bare floor through low undergrowth on a ridge top. Habitat heavy undergrowth and open canopy of large forest trees.
Note. These 2 different species as far as I can determine inhabit most the same area, are much the same size and appearance. #7543 has a bifide penis measuring 30 mm. with the forks 12 mm. On the other hand #7546 has the normal penis that is single. (see drawing) measuring 23 mm. in length.
The stomach of #7543 was empty while that of 7546 contained the remains of material which appeared to be insects & other small invertebrate life.

#7543



#7546

Note Information Dated Feb 25 and under This bracket goes under heading of Phascogale.

Mar. 1 1 in 17 steel traps. Brought in by collectors. Insects in stomach. Testes small apparently not an adult.

Mar 2 1 in 182 snares. Brought in by collector. Taken on ridge top about same level as camp. Teats on pouch etc. No young. Opening to pouch a broad slit 25 mm. in length. Posterior lip of pouch 15 mm from vagina. Posterior teats 30 mm. from vagina 6 mammae none lactating they slightly enlarged (see diagram)
Length of slightly enlarged teat is 6 mm and not enlarged is 2 mm. The pouch is 60 × 30 mm.

posterior

The stomach contained the remains of insect, annelids, and such organic material.

Mar 4 6 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
2 in 209 snares. Brought in by collecting boys. These two, 1 an adult ♀ and the other its young, were taken on ridge in open forest above camp bed. According to the collector the adult was dead in the trap and the young waiting near by. At approach of collector the young attempted escape and was shot. Pouch opening 40 X 30 mm. Posterior lip of pouch to vagina 15 mm. Lip of pouch to single enlarged mammae 30 mm. Posterior right tit + mammae only enlarged. Other 5 small. Length of enlarged tit 25 mm. Nonenlarged tit vary in length from 1 to 3 mm. The pouch opening can be expanded to a circular opening with diameter 55 mm. Pouch, inside dimensions, 115 X 70 mm. It can be stretched to exceed these measurements. Stomach empty.

Mar. 5 1 in 27 steel traps. Brought in by collector.

Mar. 8 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 87 snares. - Brought in by collector. ♀ with juvenil. Pouch 35 mm. long. Posterior lip of pouch to vagina 15 mm. Of the 8 mammae the right anterior being the only functional one. Length of tit row is 12 mm. From posterior tit to lip of pouch 23 mm. Pouch measures 103 X 50 mm. Stomach contained remains of invertebrates.

Mar 9 2 in 27 steel + 141 snares. - One brought in by collector the other taken in forest trail through open undergrowth of secondary forest.

Mar 9 6 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
2 in 231 snares X2. Brought in by collectors. Said to have been taken in forest floor trails.

Peromyscus

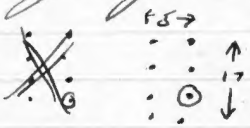
Mar. 11 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 266 snares. Brought in by collectors.
Pouch enlarged but no young. No ent. Stomach contained 19 annelids, 1 cricket, 3 centipedes, 1 pandanus seed. There were more angle worms in stomach than have I found seen probably due to the wet evening bringing the invertebrates out. Previously I have also seen Pandanus seeds in stomach but failed to make a note of it because unable to tell whether taken in stomach which animal was in trap or bag. This animal however was caught about neck with snare and consequently had no opportunity to consume foreign material which caught.

Mar. 15 3 in 442 snares. Brought in by collectors. Stomach contained insect remains, annelids, and pandanus seeds. Stomach walls of this species frequently have large (1 x 1 in.) cysts containing round worms. Penis is longitudinally bifid for ¼ its length.

Mar. 16 1 in 27 steel traps. Brought in by collector.

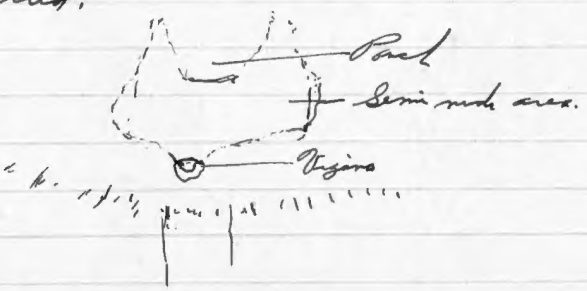
Mar. 17 1 in 573 snares. " " " "

Mar. 19 1 in 598 snares Brought in by collectors
One of the eight mammary glands lactating but no young in pouch.



Lip of pouch to vagina 14 mm.
Length of pouch opening 38
Lip of pouch to lactating mammary gland 25.
Size of pouch 68 x 40

It should be noted that there is an absence or rather a very fine hair in the area between the vagina and the pouch. The pouch itself is very finely haired.



Mar. 22 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.

2 (Juv.) ♂ 742 mm. Taken on low ridge above flood plain. Forest rather open with moderately thick undergrowth and leafy forest floor.
The adult ♀ #7708 has in pouch a living young #7709. Following are notes on the activities of this young. When not disturbed the young remains relatively inactive in the dark mother pouch. The only movements seen are those of a regular (½ sec) respiration. Very occasionally there is a movement in the shoulder region.
The ~~best~~ young is in a curled up position with its posterior toward back of mother and the young itself faces the pouch opening. When the longitudinal pouch opening is opened the young draws away apparently stimulating a negative reaction toward open pouch. This activity is a definite pushing away with the front and hind feet from the opening. The ~~young~~ young which has not been subject to open pouch for the past 5 min has worked its way to a crossing position in the pouch so that head is under one of the lateral lips and manus under the other. Now it is in a quiet resting position and in apparent darkness as far as eyes (unopened) are concerned. Mother turned on side closing the pouch again. The young ~~and~~ reorients itself with head toward pouch opening and becomes quiescent again. For the past 1 min remained quiescent except for occasional squirming. Pouch is never opened by young during this squirming. Reopened pouch. Young pushing away from opening. Finally detached itself from teat during struggle. No effort made to regain teat nor utter noise.
Young removed from pouch. Definitely has a sense of equilibrium. Attempts are made to get on its feet and when this is accomplished after much effort it proceed with a very spraddling sort of a walk. Spends a good deal of its time

Perogyetes

on its side squirming and kicking the front feet ~~are~~ moving alternately and the hind feet ~~simultaneously~~ nearly together one being slightly ahead of the other. When placed near the pouch it makes no effort towards entering but continues its aimless squirming. It has been out of the pouch now for about 10 min and its activities are lessening. Seems to be content to lie still with periodic squirms. Touch seems to stimulate it to reaction. It is now uttering very soft squeaks as it squirms about. Note should be made of the fact that when the dead mother was removed from the screen the young was squirming outside of the pouch but it still retained hold of the teat. Measurements of pouch are as follows —
Vagina to posterior lip of pouch 13 mm
Pouch opening 35 mm.
Posterior lip of pouch to posterior tit 15
Tit row 13

The posterior pair are very small and apparently ~~non functional~~ rudimentary. Only 1, the upper left, to which young is attached in lactating.
Internal measurement of pouch 100 x 60.

Mar. 24 4 Km. SW Bernhard Camp Idenburg River, Netherlands New Guinea 850 m.
1 in 812 snares. Brought in by collectors.
Mar. 28 1 in 845 snares. Brought in by collectors.
Mar. 30 1 in ~~870 traps~~ 27 shot traps. Brought in by collectors.
There is a seemingly ochreous tint to color of this beast. Perhaps it is a part of juvenile coloration.
Apr. 1 2 in 987 snares. Brought in by collectors
Stomachs contained insect remains and Pandanus fruit.
Apr. 2 2 (1 Juv.) in 987 snares. Both specimens in alcohol.
Brought in by collectors.
Apr. 3 3 (1 Juv.). in 987 snares Brought in by collectors
~~#~~ #7790 measurements of pouch are.
Posterior lip of pouch to vagina 15 mm.
Length of pouch opening. 33

Posterior lip of pouch to posterior tip 25
Dimensions of pouch 65 X 45
Length of tit row 12
Breadth of " " 6
Tits (4 pair) are not equal in size varying in height from 2 to 7 m.m.
Measurement of pouch area for specimen #7795 as follows —
Posterior lip of pouch to vagina 12
Posterior lip of pouch to posterior tit row. 23.
Length of pouch opening 33.
Dimensions of pouch 80 X 20
Length of tit row 15.
Breadth of tit row 6
I believe after looking at many pr of this sp. that the posterior pair of tits are never functional. They are always smaller than others

. . Diagram of tits. ⊙ marks functional ones.
. .
⊙ .
. .

Apr. 15 Bernhard Camp Idenburg R. Netherlands New Guinea 75 m.
1 in 27 steel traps. Brought in by collector
Taken on lower mountain slopes above flood plain.
Stomach contained remains of insects

Wm B. Richardson
1938

Petauro

July 16 4 km N.C. Dojo, Netherlands New Guinea 200 m.

Day before yesterday an adult & one two juveniles were brought to Hollandia by Mr. Ebels. The natives had caught it, ~~xxx~~ in the vicinity of his home near Sentani Lake.

Wm. B. Richardson
1938

Phalanger

May 21 Hollandia, Netherlands New Guinea

Today a young Papuan boy brought in a tame young "cuscus". His campong is Tabati but according to him he had caught it ~~it~~ on the main land across from the island of P. Yamadi in Humboldt Bay. The native name for the coast along where the ~~bad~~ animal was captured is O or AW (as in saw). Roughly speaking it was taken about 2½ miles south of Hollandia. The phalanger was quite young, I would say about ¼ grown judging from the callouses and flow. According to the boy it had been in his possession for one week. Even at this young age it exuded a liquid with a smelly odor not unlike the weasels of North America. This odor was not noticed until the animal was being killed and within half an hour it had completely dissipated as far as my sense of smell was concerned. The urin came in a small stream with moderate pressure. The scats were dark green in color, size 50 mm. long and 5 mm. thick with tapering stringy ends.

June 1 Hollandia, Netherlands New Guinea

Two Phalangers were brought in for sale today, the price asked 5.50 f, and the price paid f 2.70. According two the Papuans that brought them in for sale they were captured near Stiebiers, (#2) residing on the mainland south of Engroo. Engroo being located 6 kilometers south of Hollandia at the mouth of Jauleta Bay in Humboldt Bay. Tomorrow I will try to find out more about this locality. These two Phalangers No 1# and No 2# are to be kept alive for study. Number 1# is apparently a male adult with a pronounced black stripe down his back, Number 2# is a juvenile ~~maculates~~ with light brown spots on a dirty white background. The food provided by the Papuans for the animals during transportation was the orange fruit

of the Pandanus. According to the Papuans they would also eat papaya, pisang, and the meat of coconuts. This feast for coconuts may account for their name, among the wild people (Wilde), of Klapa nuts. According to the natives these two were taken in the jungle, not on the mountains. The local names for these are as follows:

	1#	2#
Malay	Kuso	Kuso
Tobadi	Em	Em
Engros	"	Em
Sentani	Wahe	Onen

The different areas may change the name applied to the animal known in this case (Tobati) it was not so ♂ Tanti and ♀ Monea. I forget to mention that these two beasts were said to have been caught one day ago (May 31). It is very difficult to find out where and how these animals are caught. It is difficult to rate myself understood and coupled with that is the fact that they appear are more interested in making the sale than giving information to science. I am under the impression that they will tell you anything to suit the purchasers likes. Anything for the sale.

June 3 On the night of June 1, Valorga #2 escaped by rowing through the rotan bindings of his cage. Two good observations since then on #1, Dr. Rand and myself are of the opinion that it is not well and its actions cannot be considered normal regardless of the cage. It is slow dragging. Its movements are never more than a few steps at a time. Its posture is a semi-circle upright on ~~which~~ the degree of which varies with the activity. When walking it tends to an arc but this is still pronounced

Wm. B. Richardson
1938

Phalanger

lump in the back, when asleep it is coiled closely with the head held slightly to one side, when disturbed it remains motionless in a prone huddled position with its head upright but close to the ground. The tail is never held in regular but rather seems to be semi-coiled loosely but allowed to be held in any position. The feet are always beneath the animal and close together often resting on or on a part of the tail. The food up to the last has been an apple banana which was eaten during the day of the second of June and finished with the exception of about a tablespoon full during that night. The next day, today, it was given a little large piece, 1½ cup, of Papaya including the seeds. It has fed on this intermittently all day a few bites at a time, about ¾ of it still remains. I have been unable to tell whether the seeds or not have been eaten. The process of eating is a scraping off of the papaya with the lower incisors. To do this the head is pushed forward in a relatively slow rythm with the fixed upward look.

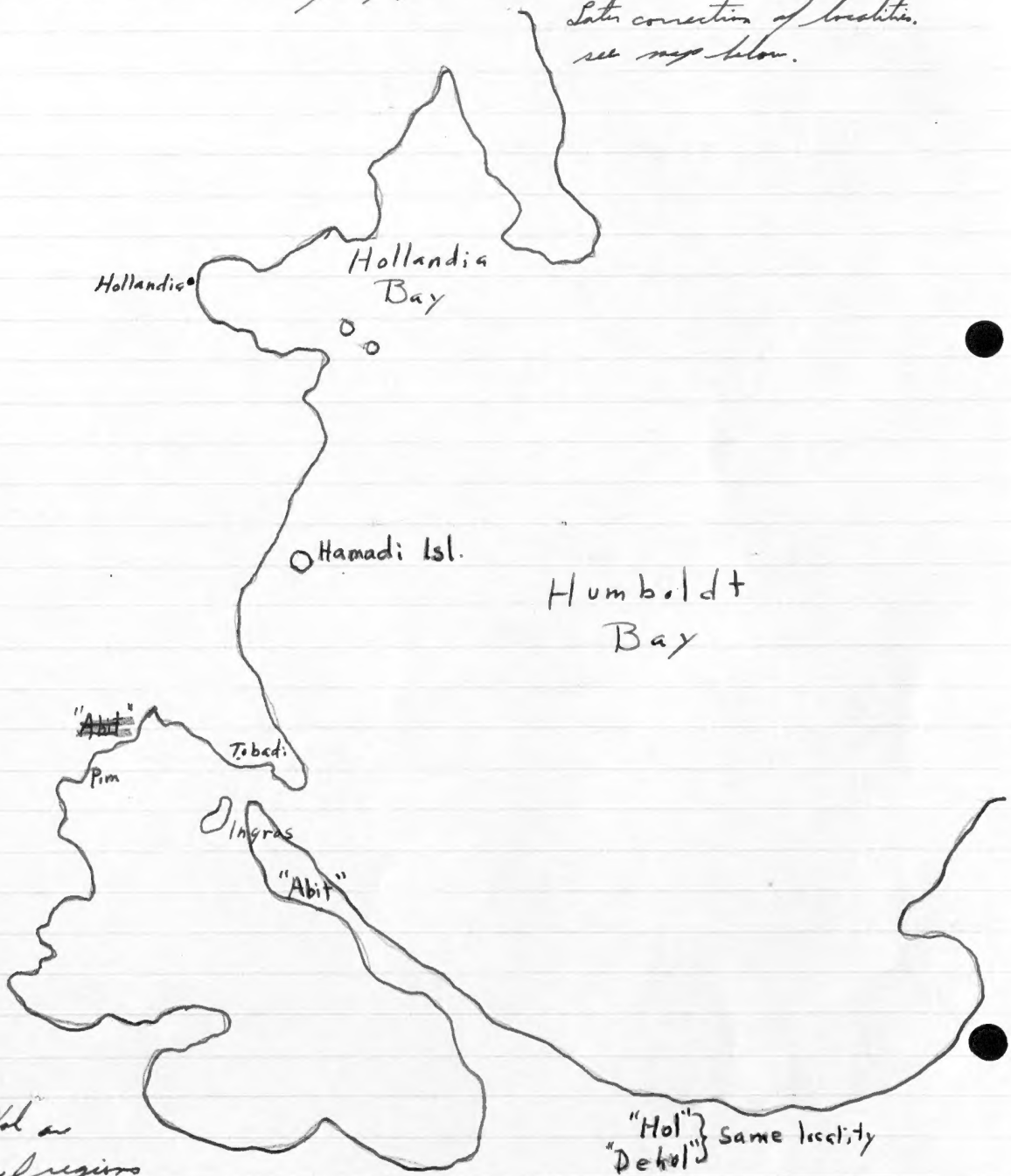
June 4 The Phalanger (1#) died last night. It was probably the result of exposure and mal-treatment. Prepared the skin this morning No. – A 4001.

June 7 ~~Hollandia, Netherlands New Guinea~~

Two cuscuses were brought in today by the natives. Price 2.50 guilders. The smaller (#1) is a [Juv. large] ♂ partial albino, lacking the pink eyes. The other (#2) is spotted black in the colors tan, brown, and gray. It is tailless for 3 cm off the dried hanging

end of the beast soon after I received it.
[No 1# Was ~~as~~ according to the Papuan collectors caught yesterday in "Abit" Utang about ½ Km west of Tobadi or 5 Km south of Hollandia; the other 2# was caught ~~when~~ young and kept for 100 ± days by the Papuans. It was originally taken, according to them in "Hol" Utang which is located 4 Km south west of "Tobadi or 8 km. south south west of Hollandia, (See map).]

Later correction of localities. see map below.



Note. Abit and Hol are names of jungle regions, while Tobadi and Ingras are villages.

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1938

Phalangers

The two animals when put in the cage together were quite antagonistic and according to the cooks they were fighting on the younger or fifth or sixth day of the two with the bald girl was more aggressive. At present although evening they are quiet, docile beasts although they each keep to their respective corners. They food today was a small papaya and 2 jumbocs (sp.?) although they have eaten only about ¼ of it. The dung of this beast is cylindrical measuring 5 mm x 20 mm. It has square ends as if held in the large intestine on against the other. They are emitted in rapid succession. While we were decorating and removing the cage a period of less than 30 sec. I counted the emission of 9 scat. They are dark green in color, composed of soft undigested vegetable material which have apparently been well masticated. Their mastication is observed is rather slow and weak.

June 8 Little time for observations. In climbing the tail is used only on the down hill grade. That is when the animal is climbing down a stick in the cage. The tail then is used to support or brake the fall by wrapping around the limb above. In walking along a small limb the hind feet function as ~~hold~~ opposite each other so as to give a firm grasp on the branch. The opposable toe is not used, apparently, as much as one would think. They seem to depend on the long claws rather than the toe for clinging to the wire screen and walking along the branch in the cage.

June 9 Hollandia, Netherlands New Guinea

This forenoon I purchased (2.50) an

adult Phalanger with its 1 young. It is housed at present in the same cage with the other two. [Young #4910] [Adult 4115]

The food of these beasts up to date has included Bananas, coconuts (young + mature), Pandanus, tomatoes, geroko, jambos. The tomatoes are not cared for; I have seen only one animal pick one up and bite into it. Mature coconut meat ~~is~~ has been eaten only in moderation today when there was no other food in the cage. Bananas are relished, the ripening seeming to be preferred, although, the entire fruit is consumed. Young coconuts are eaten whole, inner shell and some of the inner pith. Geroko are also a very acceptable food for these beasts.

The adult ♀ is in color a light ocre or dark tan in color with the upper surface being of a duller color than the rest of the body. The color of the young is a grizzly dark gray all over. ~~Consistent~~ The fur on one side of the upper abdomen is worn off due possibly to its caged conditions.

The locality from where they come according to the Papuan collector is from Ettong (forest) "Debol." It was from this same forest that one of the previous animals were taken. (See map on previous page [2])

June 11 Kollardin New Guinea

Notes on captive (4) Phalangers — In addition to the food ~~as~~ listed on June 7. the Cuscus have eaten portion of a melon which is somewhat like our watermelon but smaller and with grained, white and light pink flesh. The seeds are apparently rejected. They have also eaten part of a long Jamaica like vegetable. Bananas still seem to be the preferred food. One of the smaller animals (the partial albino) according to our Malay cooks ate two the afternoon. The activities of the mother and

Phalanger

young are very interesting. They seem to have a real motherly attitude towards the young, constantly eyeing its (young's) activities and reacting accordingly. When moving care is taken not to trod on stepp the young and to give it advantages of the pouch or itself for security. When in motion (the adult) the young often clings to the back, or sides of the body. At times the young is carried in the pouch or rather partially in, usually the head and fore shoulders. The other evening I saw it completely in the pouch with the exception of the left hind leg. This evening while observing the old mother spent ten to fifteen minutes licking or grooming the young with an occasional lick for itself. Most of the young's body was gone over by its mother toying the young all the while paying little or no attention to the adults efforts.

June 14 Hollandia, Netherlands New Guinea.

This evening I purchased another gracus which judging from size is a sub adult. The purchase price was .90 the price asked was 1.50 guilder. I hope that the reduction in price will not discourage this collecting. According to the natives it was collected recently in "Mong (first) Sko Yanti." [Near Sko (Sp.?)]

June 15 Hollandia, Netherlands New Guinea.

This morning I found the young (Purchased June 9) dead in the cage. It had been less active during the past few days and had a very thin appearance so I was not surprised by its death. No 4010. The other two half grown young, the albino and hot-tailed animals, have taken the place of the young. I have seen them both snuggling the adult female and apparently slight the adult do as they please, even mothering

then much the same as she did her own young

June 16 Hollandia, New Guinea.

The Phalanger brought in on June 14, 1938, by natives, died last night ~~as~~ the result of a severe wound in the shoulder received during its capture. (R4012)

June 18 Hollandia Netherlands New Guinea

This morning I purchased (2.00) an adult ♂ Phalanger. This afternoon I was turned loose in the cage containing the adult ♀ and the other two sub adult. When first liberated the male explored the cage as if looking for an escape. This exploration took about two hours, after which time he has been present on attempting copulation with the female. During the attempts at copulation the male approaches from the rear over the female clinging to the fur on the back of the mid waist. With the hind feet it attempts to turn the female on its side. During this process the ♂ licks the female and several times he ~~it~~ nips her ~~nips~~ in the back. At the present time 4:05 he is crouched in front of the female, who is sitting up, licking her pouch and probably her genetalia although the latter cannot be seen. This licking has been going on for the past 20 minutes. 4:07 The two animals are coiled up side by side in complete repose, the only difference from the ordinary their usual day time sleeping posture is that their eyes are open. This posture is an upright coil sitting on their tail and with the head on the same. This mass is held within an inch or two of the floor and with a tendency for them to hold it in toward their belly. During the day they remain in this posture for long periods of time.

Observations on climbing — The tail is apparently used preferentially only when it is going down or when it is bridging a short gap. The tail has its greatest function on the down hill grade as

Wm. B. Richardson
1938

Phalanger

when descending from the bar in its cage down the center upright. In this case the tail is used prehensily until the four (4) feet have reached the floor then the hold with the tail is released. When ascending the sides of the cage or the upright pole within the tail is ~~the~~ used as sort of a brace, ~~the~~ it is it functions in much the same way that the tail of a wood pecker does. It is curious to assume a firm grip (not coiled). In pushing outwards, that is away from the object climed it allows the claws to ~~tely~~ hold, gives a sure grip (with claw), and keeps the body away from the object climed. The tail during the upward climb is not coiled but rather is extended behind. When the animal is sitting or walking along the ~~upright~~ horizontal bar the tail is coiled about two complete turns so that the first portion reaches the dorsal part of the coil. When walking on the floor the tail is either held ~~up~~ at behind in a semi coiled position or coiled up under the belly so as to protect the genitalia. The feet. The front feet has five claws the first two of which are used opposably to the other three. This is quite apparent when the animal is climbing either up or down. When going up the the animal depends upon the 3, 4, and 5 principally and the other two functioning perhaps when possibly. When going down hill the 1st and 2nd are used to hold the animal back and when possible they are used perhaps against the other three. The hind ~~claw feet~~ has four clawed digits and an opposable thumb. This thumb is used only perhaps when crawling along a surface which is graspable, most of of the time however it is functionless, the animal depending upon the long strong claws to ~~grasp~~ cater on to the rough surface upon which it is crawling. When crawling up the wire screen

on the cage the animal does not depend upon the thumb but rather upon the claws. The thumb can be removed from its anchorage, if it has one, without disturbing the animal. However when when the claws of the bird foot are removed from its hold on the wire screen it either selects a new locality to put the foot on or else intermittently the grasps in the same locality or rather spot.

June 19 Hollandia Netherlands New Guinea

Further observations on the caged animals — Last yesterday evening the sub adult albino male spent about 1/2 hour in the process of preening. The most interesting part of which was the use of 2nd and 3 digits of the bird foot, which are fused, for combing its pelt. The two claws of the fused digits were rapidly run through the fur in short strokes in much the same manner as a dog scratches fleas. The Phalanger however is more agile being able to reach most parts of the body with one or other of its feet. Those spots that I cannot reach are accessible to the front claws which are used in the manner of a rake with short jerks. A thing that is constant and apparent is the licking of the claws every two to five seconds of preening. This is apparently to remove hair from the claws and is done in the same periodicity with both front and hind feet. In the hind feet the claws of the fused digits receive most of the licking while in the front feet all claws receive equal attention.

June 20 Hollandia, Netherlands New Guinea.

Had observed the two adult caged animals attempting copulation this afternoon. Two to three minutes were spent in observation during which time no contact was made.

Wm. B. Richardson
1938

Phalanger

June 21 Hollandia, Netherlands New Guinea.

One partially prepared skin was brought in today by a Tobati Papuan. It was purchased for 1.00 guilder. #4050.

Additional notes on caged animals – The adult female was seen on two different occasions to groom by combing its fur with the two claws on the fused digit. After an interval of 4 or 5 seconds the claws are licked and the animal resumes grooming. It was done in the same manner as previously observed grooming habits of the young & albino. The adult made a rather crude attempt at ~~mating~~ copulation but failed. The female does not seem to be in a receptive mood.

June 23 Hollandia, Netherlands New Guinea.

Purchased (2.50 guilders) an adult ♀ and young from a Tobati Papuan. According to him he had taken it in the forest "Utang Tobati" south of Tobati. The thing that impressed me was that the young was firmly attached to the tit of the female. A pull of 5 lbs ± did not even dislodge it. Only 1 of the 4 mammary glands was functional and this the one that the young was attached to. #4051 adult ♀ 4052 juvenile of the adult.

June 26 Hollandia, Netherlands New Guinea

Purchased another adult ♀ and young for the standard price of 2.50 guilders. It was taken by natives from "Sko" in utang "Tojo mo ko" on the hill west of "Cuyu batu". They had shot the beast with an arrow. #4081 ; Juv. #4082.

July 4 Hollandia, Netherlands New Guinea.

Yesterday morning purchased another adult ♂ for 2.50. It was taken by a Tobati boy from the jungle near Ufave (Inner) Bay. #4113. One of the caged animals, adult ♀, was skinned. It had been sickly for the past week and today it was completely

off its feet, so I thought best that it be prepared as a specimen. This ♀ was brought in to me on June 9 by natives. (See previous note)

July 6 ~~4 km. NE Dojo, Netherlands New Guinea~~

An adult male of a species new to me was sent in by Mr. Ebeli. According to the note accompanying the animal it was taken on the Cyclops Mts., 600 M. The half cast boy that brought it in said it was taken near "Doyo". I shall attempt to find out more about the exact locality of capture. It is a strange looking beast with short heavy yet bird like legs, long body, and thick heavy shoulders and neck. It was somewhat cat-like in appearance.

July 9 ~~Hollandia, Netherlands New Guinea.~~

An adult ♀ was sent this morning by one of Rondi's Dyaks collectors. According to the Dyaks gestures it was taken west of Hollandia (½ - 2 km) in the jungle (high rain forest). The young in its pouch is preserved.

July 13 ~~Hollandia, Netherlands New Guinea~~

A sub adult was brought in last evening by a local boy. It was still squealing on the end of an arrow so I judge from that that it was taken in the neighboring vicinity.

July 13 ~~Hollandia, Netherlands New Guinea~~ ~~4 km. NE Dojo, N. New Guinea~~

A living gray Phalanger brought in July 7 from Mr. Ebeli's died last night. It was taken near Dojo, Sentani Lake in the Cyclops above.

July 14 ~~Hollandia, Netherlands New Guinea~~

Prepared one specimen that was taken last evening by local natives. The animal was

Chalmers

was captured while crossing the road south of the Chinese store here in town.

Two live specimens were brought from Ajapo today by Santini Papuans.

July 15 ~~Hollandia, Netherlands New Guinea.~~

The two cassowaries prepared today have been in captivity for a short time. #4391 ♀ was brought in by a native from Ajapo, Santini Lake, the other was taken by a local Papuan from Tabati (country of).

July 16 ~~Hollandia, Netherlands New Guinea.~~
?

Oct 25 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.

1 individual brought in by a native for which I paid 2 shells. There was a nest in its foot which appeared to be made by a trap but there was no certain evidence of this. Later however the collectors brought in the trap which had undoubtedly taken the bird. The pouch was very small which I assume to be an indication of a sub adult bird. The droppings which in size unnecessarily large was at Habbema quite common. At least the same type appeared at in Ajapo at spread droppings below ~~Low~~ arboreal roots. Here no droppings have been found there are scattered piles droppings there arboreal roots here. These roots consist usually of vertical or horizontal logs from 2 to 20 ft. above the ground and varying in diameter from 2" to 2'. Usually the log is moss covered ~~and~~ over which is a fairly well defined track.

Oct 30 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.

1 brought in by natives. It had apparently ~~to~~ carried for some distance as the remains ~~carried~~ in trap for time before

being discovered. The natives apparently do not tend their traps regularly and at the same time have them set.

Nov 16 Bele R., 18 km N Lake Habbema, Netherlands New Guinea, 2200 m.
1 brought in by natives.

Nov 17 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives

Nov 18 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 19 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 20 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 22 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives. Have an obscure oil patch between front legs which discolors the hind parts of the white hair.

Nov 23 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives. Neither of these adult ♂s had an well defined oil patch so the ad ♂ Pseudochirus.

Nov 24 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives.

Nov 25 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives

Nov 27 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
4 brought in by natives.

Nov 28 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
2 brought in by natives

Phalangers

Nov 29 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by native.

Dec 1 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by native.

Dec 2 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives.

Dec 3 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Dec 4 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Jan. 11 15 km SW Bernhard Camp Idenburg R., Netherlands New Guinea 1800 m.
1 in 29 stub traps. Brought in by collector who said it was taken at the base of a large tree (in the mossy forest). It is possible that the animal was crossing from one tree to another by the path of least resistance a trail made by the mammals. Stomach contained remains of fruit and a small quantity of tender leaves.

Feb. 21 6 km SW Bernhard Camp Idenburg River, Netherlands New Guinea 1200 m.
2 shot last night just outside of camp. The collecting boy heard the noise, investigated and shot one. I sent him out to see if another one was about and the second one came. It ran along the ground a short distance and then up a series of several trees to a large mossy limb of one of the larger trees. After a difficult time of spotting its eyes it was finally shot down. Stomach contained in each case fruit and leaves of ~~[illegible]~~ plants. There was probably 3 ~~[illegible]~~ pints in quantity of leaf remains in the stomach and 1 ~~[illegible]~~ part fruit remains. According to the boys report this animal climbs very rapidly.

Mar 9 1 taken in 2 of 31 snares. Brought in by collectors.

Said to have been taken on trap set on log crossing stream. Dayaks? ate parts about head.

Mar. 10 4 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 shot yesterday evening. It was seen about 9:30 crawling about in an abundantly fruiting Eugenia and they shot. This particular species is a common second story tree of the flood plane. The fruit are numerous on the trees varying in size from 1 to 2 inches through, irregular globular. ~~fruit~~ When first seen the animal was crawling rapidly through the tree. A shot brought it to the ground where it began running along a small forest trail. It was pursued by my Dyak and caught as it attempted climbing a small sapling. The pelt is perhaps the most interesting part of the beast. The pelt shows both the light and dark gray individuals which I have previously taken.

Mar. 17 Bernhard Camp Idenburg R. Netherlands New Guinea 60 m.
1 sent to upper camp by van Arkel. He reports it as taken by ~~soldiers~~ natives. No measurements.

Mar. 19 4 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 598 snares. — Brought in by collector. Full stomach, remains of fruit only. Dung 30 x 9 uniform in size within 4 mm length and 1 mm thick. Apparently deposited singly.
Mar. 20. Today saw the snare in which the beast was taken; a forest floor runway through the dense second growth of the flood plain.
Mar. 28. 2: 1 shot yesterday evening by my collecting boy, the other in 769 snares. Both taken above the flood plane in open forest with moderately thick second story. The one shot was seen in a fruit tree. Stomachs of both contained fruit remains and a small amount of green material.

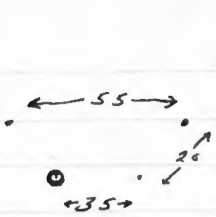
Phalanger

Mar. 24 4 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 812 snares. – Brought in by collector.
Pouch opening and 1 mammary gland functional
appearing to have been suckling young.
Pouch opening is 70 mm. long and 20 mm wide
Between horns of pouch opening 20 mm.
Vagina to anterior portion of pouch (horns of opening) 145
Functional tit to anterior pouch 70 mm.
Dimensions of pouch 100 x 100 mm.
4 Mammae
Breadth of tit row 35 mm.
Length of tit row. 7 mm
Pouch lined with soft, thin, hair varied brown
in color. Pouch hair slightly thicker about lips;
thinest between horns and on belly part of
pouch (including tits).

Mar. 27 1 in 832 snares. Brought in by collector.
Stomach contained remains of fruit. From
size of teeth I would judge this to be a
sub-adult. Interesting note.

Apr. 1 2 (N.K.) Shot last evening. It was seen moving
in a thicket some 20 ft above the ground. The
thicket was on at a rather near the edge of
the river in flood plain vegetation. No fruits
were seen in the trees in which the beast
was seen. On first shot the young fell to
the ground. It was apparently being carried
on the mothers back. The mother was taken
with following shot. Following list of pouch
young of adult ♀.

Pouch opening 70 x 35 mm 
Posterior lip of pouch to vagina 100 mm.
Point between anterior horns of pouch to functional tit 100 mm.
Size of pouch 125 long x 145 mm broad.
Pouch opening can be stretched to 130 mm.
The pouch itself can be stretched so as to give
the young the size of the juvenile angels room.
I believe that there would be room for 2 small
young



Degree of tilt. The one marked ⊙ is functional and measures in length ~~55~~ 35 mm. The non lactating tit measures 5 mm.

The activity of the young — Clinging to every article on which it could grasp with little sense of equilibrium. Unable to walk without effort and many falls. Tail and feet were used in maintaining position on branch.

Stomach contains remains of fruit and green vegetation.

Apr. 15 ~~Bernhard Camp, Idenburg R. Netherlands New Guinea~~ 75-80 m.

1 killed by my Dyaks while they were at setting traps. It was on the lower mountain slope above the flood plain. According to their story it was running on the ground and on being pursued it climbed a small tree to some 3 or 4 feet above the ground where it was struck with a stick and killed. Stomach contained remains of fruit.

Apr. 16 3 sent over from main by Rand. They were shot by him yesterday evening.

Apr. 22 1 shot yesterday by Rand collecting boys.

Apr. 28 3 (1 Juv) shot. The small white ♀ shot by soldiers in forested edge of lagoon. The ad. ♀ with juv. were taken in tree at edge of inner lagoon in bend of main lagoon. The animal was slowly active when seen at clinging to the vine tangled trunk of a tree some 20 ft above the ground. It was about noon time when seen. Overcast day.

Apr. 29 1 caught in 762 snares - Brought in by collector. Taken on upper flood plain on lower mountain slopes (?).

Apr. 30 5 (1 Juv.) shot. 1 sub adult Brought in by collectors. The other 1 adult ♂ shot from a small tree in the inundated forest edge of the lagoon. The other 2 adults were taken in forest trees in inundated areas near lagoon.

Phalanger

May 3 Bernhard Camp, Idenburg R., Netherlands New Guinea 50-75 m.
2: 1 in 893 snare, 1 shot. The bag gray sp. was taken in a snare set on the ground; the forested slope of low mountain ridge. The maculatus was shot from a large fruit tree bordering the lagoon. It was sitting on a small branch some 40 ft above the water in apparently a semi-active state.

May 5 1 shot by Papuan collecting boy. He is said to have taken it on the hill slope west of camp "Jow".

May 7 2 shot; 1 by Russian boys and 1 by my collector. Both taken near the lagoon.

Wm. B. Richardson
1938

Phascogale

July 31 Lake Habbema, Netherlands New Guinea 3225 m.

1 individual in the 150 traps. This animal was taken along a thinly forested Libocedrus open. There was an undergrowth of Rhododendrons about the base of which are clumps of moss. Exact habitat unknown for it was brought in by a collector.

Aug 5 Lake Habbema Netherlands New Guinea. 3225 m.

1 individual in 392 traps. This animal was taken from a trap set in a small runway through the low bushy vegetation of the northern bog shore. The immediate vegetation was not over 2 ft in height, in thick small clumps, and with an undergrowth of moss. The moss seemed grow upon these clumps forming a "land" clump of its own. ~~and~~ It was in a trail between two such clumps that the animal was taken. The stomach of this animal contained vegetable matter of what appeared to be the fleshy fruits of Gaultheria.

Aug 7 Lake Habbema, Netherlands New Guinea, 3225 m.

1 individual in 388 traps. It was taken in a trap set in a trail through the moss in an open low bushy thicket. The moss had formed a mat over the ground and clumps about the low growing bushes. There were scattered Libocedrus trees in the vicinity. The region in which it was caught was the lower slope of the ~~range~~ broad spur ~~extending from~~ the eastern tributaries of the grass valley stream. There are number of small holes 3"x2" x 2 to 6" deep in the earth and patches of moss which have been uprooted in this vicinity. It is quite possible that this animal is disturbing the ground in such a manner in search of insects or other edible invertebrates. The stomach contents were carefully scrutinized by ~~Dr.~~ Dr. Torgerson the entomologist "Contained insect parts of butterfly, grubs, and beetles."

Aug 8 Lake Habbema, Netherlands New Guinea. 3225 m.

2 specimens in 386 traps were brought in today by my collecting boys. They were taken in the mouse traps set about the mother bag alone. The female had functional mammary glands from which milk could be squeezed. Preserved in stomach as well as type specimen.

Aug. 9 Lake Habbema, Netherlands New Guinea. 3225 m.

Young shot as individual in the mossy forest west of the bog. According to his report it was shot while climbing about the mossy trunk of a tree. It was about 3 ft. off the ground when shot. It described it as being active and apparently well suited for an arboreal habitat. It was found in the center of this forest rather than the border which I had previously expected. There are several ticks in its ears and above the base of the tail.

Aug. 11 Lake Habbema, Netherlands New Guinea, 3225 m.

2 individuals in 387 traps. The small species of the two was taken in a small trap set on a low, well drained spur just (10 ft) above the grass valley. Here the vegetation was in a thin low growing rhododendron bushes with grasses and moss partially covering the ground. The large of the species was taken ½ way (200 yd) up the hill slope where the rhododendrons grew in thick clumps and there is a heavier moss completely covering the ground and in clumps about the base of bushes.

Aug 13 Lake Habbema, Netherlands New Guinea, 3225 m.

1 in 375 traps. Brought in by a collector who said that it was caught in a trap set in the low brushy hill side with a ground cover of moss.

Aug 14 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 375. Brought in by collector who said it was taken in much the same type of habitat as that taken on the previous day (Aug 13).

Phascogale

Aug 18 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 375 traps. They were brought in by my collectors who said that one was taken in a trap set along the thin grass at a near the mouth of the outlet stream and the other in the heavy brushy hill slope above (to north of) the outlet stream.

Aug 19 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 375 traps. This animal was taken in a trap set near the central part of the strip of grass bordering the southern portion of the outlet stream. The grass forms a strip about 50 yd. wide along the lower canyon slope. Here the grass is thick and heavy and there are a few scattered bushes but barely extending 6 in above the 18 in high grass. The trap was set in a small runway of the grass of such a bush, that is where the grass and bush twigs intermingle.

Aug 20 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 345 traps. This animal was taken in a trap set just inside a very thick bordering the grassy flat stream margin of the outlet stream. The conditions here were those of heavy tall bush with a mossy ground cover which forms hummocks about the bases of bushes, logs, etc.

Aug 22 Lake Habbema, Netherlands New Guinea 3225 m.
3 in 382 traps. The 2 ♂♂ were taken along the grassy edge of the outlet. The traps were set in small runways through the grass within 3 ft of the water's edge. The other was taken along the edge of the bog shore. The trap was set on a pretty hummock within 6 in of the water. The vegetation was an open growth of coarse sedge which grew about the lake shore. 6 in. island was a fairly high bank with a growth of

short grass and scattered clumps of tall grass about.
Since my arrival here I have continually noticed diggings in the earth. They are common about the lake shore and in moist places along ridges or reverses where there is not a complete canopy of trees or brush. These diggings consist of holes 4 to 7 inches deep and about $1\frac{1}{2}$ to $2\frac{1}{2}$ inches in diameter. The dirt usually removed in small chunks is piled at the entrance. The hole goes in at an angle of more than 45° and often nearly straight down but never entirely straight. These burrows or holes are probably made by the animals in search for insects and worms.

Aug. 23 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 386 traps. According to the collectors who brought them in they were caught in traps set near the lake shore. They were probably taken in small runways through the grass in or near the border grass of the lake shore.

Aug 24 Lake Habbema, Netherlands New Guinea 3225 m.
3 in 386 traps. Brought in by collectors from traps set along lake border, and on canyon slope above outlet. One and only ♀ had 3 young (in alcohol) in pouch. This pouch seems to be little more than a fold in the skin of the belly about the mammary glands. The 3 young were loosely attached to the tits. From the size of the 4 mammary glands it would appear that there were 4 young, one being lost in vat, to come or when mammal was caught in trap. I have examined the stomachs of a number of these animals and they all seem to contain insects, grubs, and a small amount of vegetable matter.

Aug 26 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 386 traps. Brought in by collectors.

Phascogale

Aug 28 Lake Habbema, Netherlands New Guinea, 3225 m.
1 in 386 traps. Brought in by collector. Probably taken in similar habitat as indicated Aug. 23.

Sept. 15 2 km. NE Wilhelmina top, Netherlands New Guinea 3560 m.
One individual was captured yesterday by one of my collecting boys as we were setting traps in the lower S W side of the camp valley. The individual was seen running through the thick, short (18") grass and was pounced upon by the boy. The habitat in general was that of a grassy hill slope with scattered trees and numerous bad slopes.

Sept 16 2 km. NE Wilhelmina top, Netherlands New Guinea 3560 m.
1 in 343 traps. This individual was caught in a trap set in a grass clump at the brushy edge of the forest border. It was taken near the one captured on Sept. 15.

Sept 27 2 km. E Mt. Wilhelmina, Netherlands New Guinea 3900 m.
1 in 114 traps. Taken in a trap set in runway through a brushy thicket. The general region is that of an old talus slope of large boulders which is now overgrown with scrubby trees, bushes, herbs, moss etc. It apparently has had some skin disease.

Oct 11 2 km. NE ~~W~~. ~~W~~. Lake Habbema, Netherlands New Guinea, 2800 m.
1: One individual was shot by my collecting boy and the other was brought in by a native. The one shot by the collector was taken in the mossy forest with its great trees, open brushy undergrowth, and a mossy covering of litter, earth, trees, etc.

Oct 14 2 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
2: Two individuals shot by Brown's collecting boys. According to him they made runs on the ground & moss covering of the litter and

the ♀ shot from a tree some 25 feet ~~ft~~ above the forest floor.

Oct 16 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
3 individuals brought in, one by a Papuan (8 white eared), and two by Rand. The one which the native brought in is probably from a much lower altitude for with it was a pigeon which according to Rand occurs only at lower levels. The ♂ white eared shot by Rand ~~was~~ from a tree in the mossy forest some 20-30 ft. up. According to his statement it was crawling about on the branches and then onto a limb before finally shooting it. The other individual, a smaller species, was shot at a higher altitude (3000 m). Seen running through or about the moss clumps and sedge clumps of a more open country, not the mossy forest.

Oct 17 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
3: 2 in 431 traps the 3rd was brought in by a native. The two smaller species were taken by collectors. In ~~ext~~ more traps set in small runways in and about the litter of the forest floor. The large species, white eared, was taken by a Papuan.

Oct 18 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
3: 2 in 425 traps. 1 taken by collector. (total 3). The three species from the same tree were caught today. The large white eared shrew was taken in a trap set in runway through the litter and herbaceous plants on the mossy branches of a tree. The dark striped species was caught by a collector this afternoon. It was seen running about on the ground. The other species, a small moss brown colored one, was taken in a trap set in an inconspicuous runway along the trap of a log which was covered with moss and low growing plants.

Oct. 19 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
3, 2 in 425 traps. The dark striped individual

Pascogale

#5184 was brought in by collectors. #5187 was brought in by natives, apparently taken at a lower altitude for I saw it on ~~and~~ its way up. #5180 was taken at the top of a clump of moss about the base of a tree. It may indicate that this species is semi-arboreal.

Oct 21 ~~9 km. NE Lake Habbema~~ Netherlands New Guinea 2800m.
2 ; 1 in 418 traps. One specimen, a young white eared bust was shot by my collectors while it was climbing about in the tree. The other was taken in a moss trap set in a runway over the moss at the base of a tree in the mossy forest.

Oct 22 ~~9 km. NE Lake Habbema~~ Netherlands New Guinea 2800m.
3 : 1 in 418 traps. #5212 brought in by natives (still warm) #5213 shot by collecting boy from moss covered tree in forest north west of camp. The small species taken in trap was in small trap set on horizontal small mossy log 3' above the ground. ~~There was a well~~ ~~very~~ defined trail through the ~~orchard~~ orchids and other plants that grew up among moss. Stomach contained insect remains.

Oct 24 ~~9 km. NE Lake Habbema~~ Netherlands New Guinea 2800m.
4 : 1 in 414 traps, 2 brought in by natives, 1 ~~by~~ shot by my collecting boys. The one in the trap, a small gray brown species, was taken on a moss covered inclined tree trunk. ~~Quite~~ Though the moss was growing ~~on~~ orchid plants and other herbacious things. It was in an obscure trail though these plants on the moss covered inclined log that the beast was taken. According to the collectors, the one they brought in, a white eared bust, was taken on the ground. It is my opinion that these beasts frequent the large mossy binded ~~on~~ forest and are equally apt for running over the ~~ground~~ mossy litter and tree trunks. They are probably diurnal. The individuals brought

in by the Papuans was probably taken at a lower altitude.

Oct. 25 Wm. McLeh Habbema, Netherlands New Guinea 2800 m.

1 shot by Papuans. It was on a moss covered fallen log in the undergrowth of the mossy forest.

Oct 26 Wm McLeh Habbema, Netherlands New Guinea 2800 m.

3: 1 in 40 traps, 1 brought in by Dyak (adult male) who said it was taken by him. He had run it running about on the ground and into a hole to escape capture. Another, white eared, was brought in by native probably from below. The one taken in trap was brought in by collector who said it was just sat in moss about the lower base of a tree.

Rand watched one of the "white eared" species today. The following is copied from his notes Oct. 26, 1938. "Phascogale white eared. — Today in the forest I watched one for some time through glasses at 65 yd. perhaps ten minutes, about 10:00 A.M. It was apparently searching for food on the moss covered trunks and branches of second story trees 10' to 35' up, in good forest. A very active beast, it usually worked its way slowly up a trunk and along branches, sniffing its nose here and there into the moss, continually keeping its nose close to trunk. The upper or underside of branches makes no difference to it and it was frequently running along this underside, frequently, on small limbs jumped from one to another as nimbly as a squirrel. To get to next tree it would run down the trunk head first very quickly, to where it could cross in undergrowth. Most of the time it progressed slowly, exploring the moss. The tail was kept in line with body close and trailed, when sitting on branch the tail hangs free it curved slowly slightly forward, the white tip making this conspicuous.

P. Lascagale

Once it sat up for some moments licking its hands and washing its face by rubbing its hands over its muzzle. My attention was first called to this beast by idly watching a friendly flycatcher which was playing about near it. During the whole time I watched it this flycatcher was never far away 3'-15' not seeming an excited but just friendly as when near any of the birds with which it frequently consorts."

Oct 27 ~~9 km. NE Lake Habbema~~, Netherlands New Guinea 2800 m.
2 brought in by natives. The melanistic one was probably taken at a much lower altitude for the skin about the nose and feet showed signs of drying.

Oct 28 ~~9 km NE Lake Habbema~~, Netherlands New Guinea 2800 m.
1 brought in by native. It appeared to be a rather fresh killed beast indicating it was taken in the immediate vicinity.

Oct 29 ~~9 km NE Lake Habbema~~, Netherlands New Guinea 2800 m.
4: 2 in 413 traps, 2 brought in by collectors. #5273 and #5274 taken in traps set in mossy forest. Brought in by collectors. The two that were taken brought in by natives both were fresh specimens so we may assume that they were taken somewhere in the near by vicinity.

Oct 30 ~~9 km NE Lake Habbema~~, Netherlands New Guinea 2800 m
7: 1 in 413 traps, 6 brought in by natives.

Oct 31 ~~9 km NE Lake Habbema~~, Netherlands New Guinea 2800 m.
3: 1 taken in 413 traps. 1 brought in by native. 1 shot by collecting boy. The latter according to the boys was seen running about on the ground among cover of the forest floor.

Nov. 1 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
2: 1 brought in by native. 1 shot by Dr. Isaacson #5317. The latter according to him was shot while it was running in and out the bushy undergrowth of the mossy forest.

Nov 2 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
3: 2 shot by Rondo collecting boy who said they were running about in trees. 1 brought in by a native.

Nov. 5 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives. Probably was taken some distance below camp.

Nov 6 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by native.

Nov 7 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives. ♀ has young, the first embryos of this species found up to date.

Nov 8 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
2 brought in by natives.

Nov. 9 Bele River 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov. 10 Bele River 18 km N Lake Habbema, Netherlands New Guinea 2200.
2 brought in by natives.

Nov. 12 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov 13 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 14 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2: 1 brought in by natives; 1 in 308 traps. #5566.
Taken in traps set at the mossy bottoms of a

Placecogale

large tree. The bird in the area formed a spotted canopy over the observer's trail. ~~[illegible]~~

Nov 15 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 16 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives

Nov 17 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 416 traps. Taken in forested area.

Nov 18 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
6 brought in by natives.

Nov 19 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by native.

Nov 20 Bele R. 18 km N Lake Habbema, Netherlands New Guinea. 2200 m.
4 brought in by natives

Nov 21 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 198 traps. Taken by collectors in forested area with semi open undergrowth.

Nov 22 Bele R. 18 km N Lake Habbema Netherlands New Guinea 2200 m.
5 brought in by natives.

Nov 23 Bele R. 18 km N Lake Habbema Netherlands New Guinea 2200 m
2 in by natives.

Nov 24 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
6: 5 brought in by natives. 1 in 404 traps. Taken in an old cut over, grade area which had reverted ~~[illegible]~~ to a second growth brush and bracken entanglement. It was in a runway paralleling an overgrown log that the bird was taken.

Nov 25 Bele R. 18 km N Lake Habbema, Netherlands New Guinea, 2200 m.
4: 3 brought in by natives, 1 in 4+4 type. Taken in obscure runway over the ~~moss~~ leafy forest floor, in the open undergrowth of the same forest.

Nov 26 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives.

Nov 27 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
8 brought in by natives. The 4 juveniles when brought in were still alive and clinging to the tits of the adult. This is usually the case and some young will remain alive and attached for as long as 24 hrs. At death the smaller young still remain fast to the tit. The large juvenile (cholotis) body utters a faint squeaking noise at intervals of about 1 sec. and all the time aimlessly struggling to gain movement. ~~It~~ At this stage the young have no sense of equilibrium or in other words which side is up.

Nov. 28 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov 30 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
7 brought in by natives. These which used up have 4 mammae and so make 4 young although 3 or less are usually. The pouch is little more than a fold of skin over the mammary glands rather than the typical pouch of the phalangers. The lateral folds are more pronounced than the anterior & posterior.

Dec 1 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3: 2 brought in by natives, 1 shot by Bruce. According to him it was clinging about on the trunk of a large tree some 10 ft off the ground. Area was that of heavy forest.

Phascogale

Dec. 2 Bele R. 18 km W Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec 3 Bele R. 18 km W Lake Habbema, Netherlands New Guinea 2200 m.
6 : 5 brought in by natives, 1 brought in by collector from 399 traps. Taken in forested area.

Jan 11 15 km SW Berubed Camp Idenburg R. Netherlands New Guinea 1800 m.
1 in 425 traps. Brought in by collector who said it was taken on the mossy ground floor of the mossy forest. Area flat of mossy forest with moderately thick second story growth and scattered undergrowth. Little rock or fallen logs very common.

Jan. 14 1 shot by Reed this morning. According to his story it was taken some distance off the ground in the mossy trees of the second story. It was was moving head first down the tree when shot. The area was a ridge with rather thick second story growth.

Jan 15 1 in 28 steel traps. This small beast was brought in by collector who said it was taken in steel trap set in large mossy. This mossy was probably established by some larger animal such as a Dasyurus and this animal just happened to be using the moss for his convenience. The area was mossy forest on a steep hillside with scattered big trees, moderate second story growth, and a rather thick undergrowth on the littered forest floor.

Jan 16 1 in 28 steel traps. Brought in by collector who said it was taken on surface mossy though bushy thicket near a large mossy tree.

Jan 17 1 shot by Reed collecting bugs. He said it was climbing in a tree when he shot it.

Jan 18 1 in 28 steel traps. Brought in by collector. Said it had been taken from trap set in large mossy forest floor.

Jan. 19. – Today the boys showed me the traps in which this beast was taken. It was a rather large thicket though an area of thick undergrowth, pandanus, and second story vegetation. Litter was common on the ground in more or less a confused tangle with the undergrowth.

Jan 19 15 Km SW Berkland Camp, Idenburg R. Netherlands New Guinea 1800 m.
2 in 421 traps. Brought in by collector.
According to the ♀ was in the trap and the juv. boy died some 3 or 4 ft. distance. There were 4 tits in the open pouch, only 1 of which was functional. The pouch is certainly a rudimentary structure in this beast consisting of little more than the tits with the modified hair. There is also a slight fold of the anterior border of the pouch area but this is practically obliterated by the enlarged mammary glands.

Jan 21 1 in 421 traps. Brought in by collector. This adult had 3 jug. measuring 9 mm from nipple to crown. The pouch or rather the pouch area ~~including~~ surrounding the 4 tits measured 20 mm. long by 18 mm wide. These are inside measurements as it spreads and do not include the low walls of the pouch which tend to flare outward. The fold of the skin ~~over~~ about the pouch area measured 5 mm in height at each side and 3 mm in height posteriorly. Anteriorly there was no flap or wall to the pouch area. This shows a tendency toward an anterior opening as compared to the posterior opening in ~~the~~ a similar pouch of Dasyurus.
Stomach contained remains of insects and other small invertebrates.

Jan 23 1 shot by Rondo collecting boy. No postcardsa.

Jan 25 Aracawa Creek Idenburg R. Netherlands New Guinea 800 m.
1 brought in by a ~~collector~~ Dyak cooli.

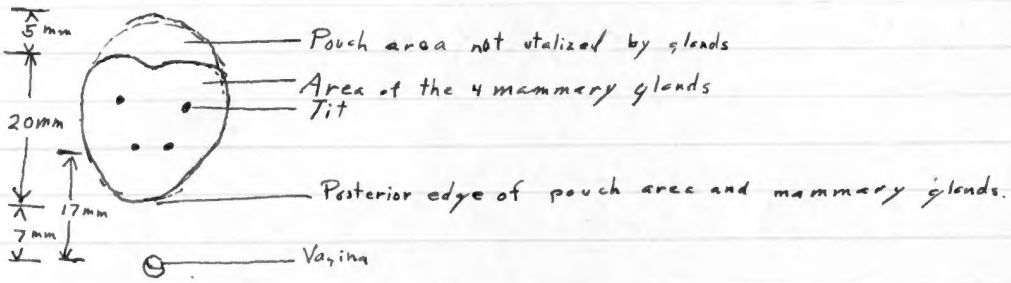
Jan 27 15 Km SW Berkland Camp Idenburg R. Netherlands New Guinea 1800 m.
1 in 218 traps brought in by collector. He said it was taken in runway on the moss at the base of a large tree.

Feb. 5 18 Km SW Berkland Camp Idenburg R. Netherlands New Guinea 2150 m.
1 shot by Rondo collecting boy. According to him it was sitting inactive ~~hunched~~ up ~~on~~ a mossy knob in a tree. [Perhaps sunning itself.]

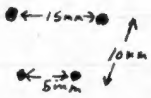
Phascogale

Feb 6 18 Km SW Burnbard Camp Idenburg R. Netherlands New Guinea 2150 m.
1 shot by collecting boy. Said it was running over the forest floor and climed up, 1 m., a tree where it was shot. Stomach contained remains of insects. Whitish Thoracic fur with undergrowth of bamboo.

Feb 9 1 in 4 H traps. Brought in by collectors. Stomach contained the remains of insects. There was no apparent enlargement of the uterus showing that ~~young~~ embryos were present or that they had been recently born. The 4 tits however were enlarged and the mammary glands well, exuding a watery like fluid when pressed. Total of 4 tits all apparently functional. The following is digrams and measurements of tits, pouch and relationship to vagina.



Digram of pouch area and vagina



Digram of tits

There must be some variation in measurements ~~X~~ made here and the actual living animal. There would also be variation with the different positions the the mammal might assume. These measurements may be of some value and interest when considering that they were made on a freshly trapped individual.
There also might well be and probably is a ~~correlation~~ change in measurements with pregnancy and the young's development.

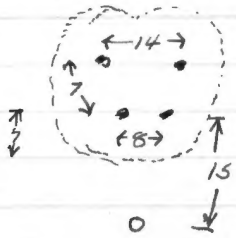
Feb 14 6 Km SW Burnbard Camp Idenburg R. Netherlands New Guinea. 1200 m.
2 1 shot by my Dyak + other caught in 27 stub traps. According to Dyak this one was shot while it was running down the ground and ~~under~~ litter.

The other was taken in trap set in forest trail. Both were taken during the day time, one shot in runway and the other ~~on~~ secondhand taking traps, between 7:00 A.M. and 2:00 P.M.

Feb. 15 6 km SW Berakand Camp Sentani R. Netherlands New Guinea 1200 m.

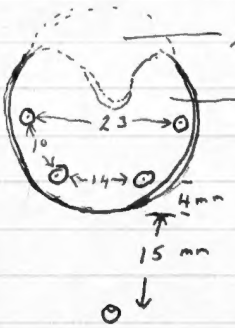
I shot this runway by Rand. According to his statement it was first seen on a trap that left through darting in and out of holes. It then took notice of him running down back side of trap and up opposite (8 in. diameter) to a distance of some 15 ft. Shot. Following notes on pouch.

Pouch area 28 x 20 mm.



The 4 tits all moderately large but not lactating.
The lateral flaps small 2-3 mm.
No anterior or posterior flaps.
Rather long posteriorly directed hair at the anterior region of the pouch.

Feb. 18 1 in 223 rat traps. Brought in by natives. This individual #7517 is a relatively small ♀. Each of the 4 mammary glands and tits are enlarged not lactating.



The fold about the pouch area which forms an incomplete pouch is a flap of skin 3 mm. high ~~tate~~ on lateral walls and 2 mm. high posteriorly. There is no trace of fold anteriorly but rather a space 20 mm. broad ~~which is~~ between the horns of the lateral walls.

This afternoon examined traps in which individual was taken. The traps in a runway at edge of bog in littered brushy area of moist hill slope.

Phascogale

Feb. 22 6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
1 shot by Forstegh. He said it was seen running over the ground and then up into a tree where it was shot.

Feb. 25 See notes for Perameles important.

Feb. 27 2 in 221 rat + 12 steel traps. — The female had small non lactating mammary; no ent. although ovary seemed enlarged. The male had non bifid penis.

Feb. 28 1 in 182 snares. Brought in by collectors. Stomach contained insects remains. Penis not bifid.

Mar. 3 1 shot by my collecting boy. Said to have been climbing in tree.

Mar. 4 1 in 209 snares. Brought in by collectors. Stomach empty.

Mar. 9 1 in 231 snares. Brought in by collectors. It had been nothing in traps for several days. Said to have been taken on log crossing a stream.

Mar. 12 4 km. SW Bernhard Camp. Idenburg R. Netherlands New Guinea 850 m.
1 shot by Rand. According to him it was on the ground; had no time to climb tree; inspecting snares. Stomach contained insect remains. Open pouch containing 6 mammae 5 of which were lactating. No ent. Ovary.

Mar. 16 1 in 209 rat traps. Brought in by collectors.

Mar. 19 1 in 598 snares. Taken in a snare set in forest runway. Habitat - agathis forest with moderately heavy undergrowth; little common; leafy forest floor. Its a heavy ~~stoutly~~ sturdily built beast as compared to species previously taken on this expedition. Stomach empty except for refuse ~~taken in~~ extra which animal was in traps.

Mar. 20 1 in 643 snares. Brought in by collectors. Penis diseased. Stomach contained insect remains. As near as I can remember all specimens of this species have been taken in the agathis forest.

Mar. 21 1 in 150 snare traps. Brought in by collector. Sub adult. Pouch area resembling other ventral belly region.

Mar. 23 2 in 209 rat traps + 769 snares. Brought in

by collectors. Pouch area of ♀ only slightly differentiated

Mar. 27 4 km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.

1 in 207 rat traps. Brought in by collector. Taken in runway on ground in the second growth forest bordering the Agathis forest. Note on pouch area — The pouch area contains a reddish hair which is in part due to a greasy secretion. This grease may be rubbed off on finger or piece of paper when pressed across pouch. The hairless pouch measures 30 broad × 20 mm. long.

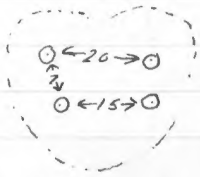


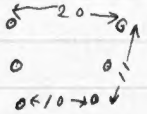
Diagram of tips of tits in pouch area with their spacing. From posterior tit to vagina is 27 mm. Posterior margin of pouch to vagina is 16 mm. There are 4 mammae, enlarged but not lactating. The outer edge of the pouch area is well thickly furred with long hair which when hind legs are near together, in normal position, tends to envelope the tits and the central thinly haired pouch area. Stomach contains remains of insects.

Mar. 27 4 km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.

7; (6 Juv.) ♂ 20 mm. X 3 days Brought in by collectors.

Dimensions of pouch 35 X 30

6 tits all functional and with young



Posterior tip of pouch to vagina 12

" " " " to posterior tit 15

Pouch forms a cap with lateral walls 22 mm, anterior wall of pouch 10 mm. and posterior wall not a fold of skin as other walls but rather protruding part of the thigh. Protruding long hair from the rim of the pouch except in posterior region. Hair of pouch is fine

Placental

sparsely scattered over inside of pouch. Hard suggest that perhaps the young are carried during life in the deeper part of the pouch which is at either side of the tit now close to the lateral walls.

Apr. 2 4 ♀ S.W. Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 27 stub traps. Taken on rocky slope north of camp. Brought in by collector. Stomach contained remains of insects. ♀ mammae not lactating.

Apr. 4 1 in 1075 snares. Brought in by collector. Stomach contained remains of insects, no vegetable matter.

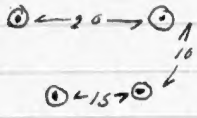
Apr. 20 Bernhard Camp Idenburg R. Netherlands New Guinea 75 m.
1 in 463 snares. Brought in by collector. Taken on lower mountain slopes ~~of~~ above flood plain.

Apr. 23 1 in 570 snares. Brought in by collector. Taken on lower mountain slopes above flood plain. Stomach contained remains of insects.

Apr. 24 1 in 27 stub traps. Brought in by collector. Taken on lower mountain slopes above flood plain.

Apr. 25 3 in 602 snares. Taken on lower mountain slopes. The ♀ was in trap and according to collector 2 young were about her 1 being captured the other escaped. The ~~young~~ Juv. #7914 was apparently still suckling the mother although quite able to run about by itself. Following are measurement of pouch.

Vagina to posterior lip of pouch area 9 mm.
Posterior lip of pouch area to posterior rim of tit 10 mm.
Length of pouch area 30
Width of pouch area 28.



The pouch area is ~~hardly~~ slightly but sparsely with slightly elongated hair about the margin. The area itself being sparsely laid with fine hair.

Ap. 29 Bernhard Camp Sepik R. Ulkubagab New Guinea 50-25m.

2 in ~~#7968~~ #234 rat traps + 27 stub. #2944. Taken on narrow strip of land along edge of lagoon which is above the present high water level but which will be isolated soon if water continues to rise. #7968 taken in stub trap set on ridge lower mountain slopes.

May 1 2 in 853 prawn + 27 stub. traps and brought in by collectors. Taken on lower mountain slopes.

May 2 1 in 27 stub traps. Brought in by collector. Taken on lower mountain slope above flood plain.

May 5 1 in 27 stub traps. Brought in by collector from hill slope.

Wm. B. Richardson
1938

Pipistrellus

July 10 Hollandia, Netherlands New Guinea.
One live individual was brought in yesterday evening by a local native. According to his story it was taken in the near by jungle.

Dec 12 Balim R. Netherlands New Guinea 1600 m.
I shot yesterday evening while flying over camp. This bat was apparently feeding in early evening [6:40] in and about the only foliage of the casuarina trees. Their flight was between 10 and 20 ft above the ground, about half way up the casuarinas. They have a rather slow flight with numerous breaks. These observations are not done on specimens procured but also on 6 or more seen on other occasions.

Dec 17 Balim R. Netherlands New Guinea 1600 m
1 individual shot by Reed. According to him it was flying ½ to ⅔ up about the casuarina trees. This bat is apparently active during the hours 6:30 to 8:00 in the evening. It is not common but has rather a distinctive ~~conspicuous~~ flight.

Mar. 22 4 km. SW Bunbal Camp, Idenburg R., Netherlands New Guinea 850 m.
1 shot yesterday evening by myself. It was flying relatively high (50 ft) above the forest floor near the tops of the second growth of the flood plain. It has rather a slow deliberate flight with rapid breaks in pursuit of insects. Activities as far as I could see were limited to a period of about 20 min from 6:25 to 6:45. After 6:45 none were seen in this high leisurely flight. Perhaps they were feeding some where else.

Mar. 29 1 shot yesterday evening. Flying about 30 ft above forest floor in a relatively slow deliberate flight with occasional rapid break.

Mar. 30 4 Km. SW Bernhard Camp Idenburg R., Netherlands New Guinea 850 m.

1 shot yesterday evening. It was flying about 30 ft above the forest floor through a small opening in the trees of the upper flood plain. Flight is slow and rather constant with occasional ~~very~~ rapid break in persuit of insects.

Apr. 22 Bernhard Camp Idenburg R., Netherlands New Guinea 80 m. - 75 m

1 shot yesterday evening by Rand.

Apr. 23 1 shot yesterday evening. It was flying near the top of the second growth canopy. The flight is slow and steady with occasional quick peek as it feeds in the small openings between the trees of the mixed second growth and rain forest.

Apr. 26 1 shot. It was flying along forested edge of lagoon some 10 ft above water.

Apr. 27 1 shot. Flying slowly about edge of forest at mouth of small river near lagoon.

Apr. 28 1 shot. Same locality as yesterday specimen.

May 1 1 shot. Flying about forested edge of lagoon some 10 ft. above the flood water.

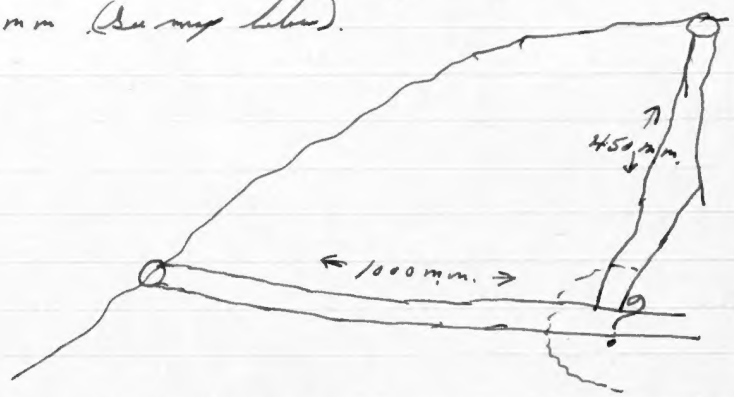
May 2 1 shot. Along forested border of flooded lagoon.

Wm. B. Richardson
1938

Pogonomys

June 25 Hollandia, Netherlands New Guinea.

One individual was brought in this morning by two of my Dyak collectors. They said that they had dug it out from a hole in the ground. This afternoon I visited the spot. (See picture). The burrow was located on the east facing slope of one of the small hills to the south west of Hollandia about 1/2 mile. The forest here is one that has been heavily cut over, those remaining only a thick bushy stand of small trees, shrubs, and digging sticks and a few scattered, larger trees which had probably been unsuitable for timber. The ground beneath the thicket is thinly but completely covered with a thin layer of humus and leaves. The soil itself is a rich, red, and deep; with little indications of zonation. The burrow itself had two entrances 2"-3" in diameter one going in at an angle (10°) downward into the slope, the other went almost straight down (90°) to join with the other below. The depth was 450 mm; the length from entrance to bottom 1000 mm (See map below).

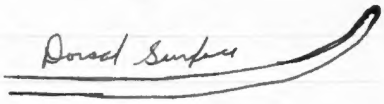


The bottom marked ? was not surveyed and at best only a rough sketch can be made of the burrow system for the Dyaks had obliterated most of the passageway.

Other burrows which were examined near this same locality and which possibly belong to had belonged to individuals of the same species had been made when roots of trees had died. These roots having decayed and left a passage the firm red earth. There was a little evidence about the entrance that the animal had done a small amount of the actual digging of the burrow. In one of the burrows there was

dung and kitchen middens (seeds, husks, etc) strewn along the burrow way.

The tail though generally not prehensile has a definite upward curve as shown by diagram.



July 4 Hollandia, Netherlands New Guinea.

Caught one individual in one of the 443 traps. It was in one of the 100 traps set by the Papuan collectors north east of Hollandia.

July 15 Hollandia, Netherlands New Guinea.

A single specimen was brought in today by Mr. Bierkman. He said that he had caught it at his plantation which is located 4 km. east north east of Tabati.

July 26 Habbema Lake, Netherlands New Guinea 3225 m.

One individual was taken in the 50 traps. The trap was set at the base of a small relatively dry sphagnum clump. This clump was situated on a ridge one of the drier spots of the trap line. Along the base of this clump was a small poorly defined trail. Away from the clump was a small, 5 yd. patch of level, dry lichen covered ground. The entire area had a dryer aspect than most spots where the other traps were set. The stomach content indicated that this animal had been living on fruits and berries. No green vegetation nor animal matter was found. The tail as compared to the Hollandia form is less curled at the tips but the dorsal black tip is more pronounced.

Aug 2 Lake Habbema, Netherlands New Guinea 3225 m.

Two individuals in the 372 traps. One was taken from the ~~grass~~ drier ridge ~~north~~ south ~~north~~ east of camp, the other from along the lake shore. The latter was caught in a trap set in a small

Pogonomys

runway through the low (2'-5') thick grass near (1') the edge of the lake. Moist conditions prevailed here not the type of habitat in which one would expect to find such a mammal as this

Aug 3 Lake Habbema, Netherlands New Guinea. 3225 m.
1 individual in 394 traps. This ~~ex~~ animal was caught in a trap set in a small runway near the lake shore. Here there was a thick short grass through which the runway passed from one few clumps of bushes to another. These small bush clumps had a clump of moss at its base into which the runway disappeared.

Aug 8 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 388 traps. This individual was caught in a runway through a low open bushy area. Here there was a good cover of moss which was in clumps about the low bushes.

Aug 12 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 375 traps. One of these individuals was taken in or near ~~#~~ the middle of a mossy forest where the canopy was a bit more open allowing a heavier growth of rhododendron understory and a heavy mossy floor cover. The trap was set in a small runway along the moss covered stems of the understory. The other individual was taken in the grassy valley in a trap set in a small trail running through the dense grass which covered the gentle slope in this area. There was no brush nor tree ferns within 100 ft of the region; it was a solid stand of the grass about 20 inches in height. The trail was small but well defined and not evident from ~~the~~ above.

Aug 13 Lake Habbema Netherlands New Guinea 3225 m.
2 in 375 traps. Brought in by collectors. One said

to have been taken by near the top of the ridge west of the grass valley where there is a low bushy growth and a mossy ground cover.

Aug 14 Lake Habbema, Netherlands New Guinea 3225 m.

2 in 375 (2 ♀). The large specimen was taken in a trap set in moss beneath a tall (5 ft) bush on one side of the bush was a small swampy grassy region bordering the small stream. On the other side of the bush was large tall bushy coniferous slope with a mossy ground cover. This animal was taken in what would be called the border between the bushy hillslope and the narrow grassy stream flowing out of the bog. Location was up the small stream west of the bog. The other Pogonomys, the smaller sp., was taken in a heavy grassy area on the upper slope of the grassy plain across (west) of the bog. This heavy grassy relict is relatively free of any herbaceous plants except those that are obscured by the grass itself. The trap in which it was caught was set 30 ft away from the nearest trees or bushy area. Another specimen was taken in same region two days ago

Aug 18 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 375 traps. Brought in by collectors. Not prepared because of damaged skull and skin.

Aug 19 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 375 traps. Brought in by collectors. Do not know habitat.

Aug 20 Lake Habbema, Netherlands New Guinea 3225 m.

2 in 345 traps Brought in by collectors. One was alive and is being kept in cage to study. Watched it for nearly two hours today climbing about the branches within its cage and seen one did it actually use its tail in a decidedly prehensile fashion. For the most part the tail is used as a balancing organ by swinging it in space or by resting it against another object. Several times the tail was loosely curled about

Pogonomys

a limb in a semi prehensile position.

Perhaps the most interesting thing about this is (in illustration) that when x is marked on illustration the dorsal or non dorsal part of the tail was against the limb. This semi prehensile use of the tail was not the usual thing. Twice during the time watched the animal actually hooked its tail about the wire screen at the top of the cage. In this case the animal used its tail in a dorsal position. The animal is very active in the cage spending most of its time in a nervous search about the cage for an avenue of escape. Its movements are quick and active quickly and easily moving about the small limbs put in the cage. Several times it was seen to jump from 4 to 6 inches landing with ease on a small limb.

Aug. 21 Lake Habbema, Netherlands New Guinea, 3225 m.

The one specimen caught today in 387 traps was taken in an open broad thicket with a ground cover of moss clumping up about the bases of trees. The trap was set in a small runway though there had moss clumps.

Aug. 22 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 382 traps. This individual was taken in a trap set in a runway though the grassy banks of of the outlet stream. Stenomys, Hydromys, Rattus and Phascogale have been taken in a similar type of habitat.

Aug. 23 Lake Habbema, Netherlands New Guinea 3225 m.

1 in 386 traps. 2 individual brought in by collectors.

Aug. 24 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. Being kept alive for observation. Spent several hours watching the beast climb about the limbs in its cage but at no time did I observe the animal use its tail in a prehensile fashion. The tail was used solely as a balancing organ swinging in the air or resting on an adjoining limb. The tip of the tail was curled with a 1/4 circle upward tip curl. It is a very active animal along small limbs or jumping from limb to limb.

Aug. 25. Lake Habbema, Netherlands New Guinea 3225 m.
1 in 384 traps. Brought in by collectors.

Sept 12 2 km. NE Wilhelmina-top, Netherlands New Guinea 3560 m.
1 in 404 traps. Brought in by collectors from line of traps that extend up the hill to the NW of camp. The region is one of open sub-alpine forest and grass.

Sept 13 2 km NE Wilhelmina-top, Netherlands New Guinea 3560 m
1 in 404 traps. Brought in by collectors from same line as specimen taken on Sept. 12.

Sept 15 2 km NE Wilhelmina top, Netherlands New Guinea 3560 m.
1 in 363 traps. Individual caught in trap set at the base of a limestone cliff where the space between the rock and the grass made a natural runway along its base. There were both grass and brush in the immediate area.

Sept 16 2 km NE Wilhelmina top, Netherlands New Guinea 3560 m
1 in 363 traps. Taken in trap set in runway through between a small grassy patch and the open heavy region of the beech forest. (S 20 side of the camp valley.) Stomach appeared to contain slaughter shots and the fleshy parts of fruits and flowers.

Pogonomys

Sept 18 2 km NE Wilhelmina top, Netherlands New Guinea 3540 m.
1 in 358 traps. Taken at the edge of the forest where the low brush was mixed with grass patches.

Sept 21 2 km. E Mt. Wilhelmina, Netherlands New Guinea 3800 m.
1 taken by the cook this morning from the coal pan. It had fallen into it sometime during the night and drowned. The region is that of an open alpine forest (timber line) with an intergrowth of coarse bunch grass.

Sept 24 2 km. E Mt Wilhelmina, Netherlands New Guinea 3850
1 in 104 traps. Brought in by collectors who said it was taken in a runway through the grass in an open sub-alpine forest.

Sept 27 2 km E Mt. Wilhelmina, Netherlands New Guinea 3800 m
1 in 104 traps. Trap was set in a grassy runway at the edge of a large boulder. The general region is that of long grass hill slope with scattered boulders and cryptomeria bushes.

Sept 28 2 km E Mt Wilhelmina, Netherlands New Guinea.
1 in 101 traps. This individual was taken at an altitude of over 4000 m. from a trap set in a small runway beneath a cryptomeria bush. The region was on a very steep hill slope vegetated with short grass, herbaceous plants and scattered cryptomeria bushes.

Oct 18 9 km NE Lake Habbema, Netherlands New Guinea 2800 m
1 in 425 traps. Taken in trap set in a runway at the mouth of a tree in a rather brushy region of the mossy forest, that is the undergrowth here was more prominent in in adjoining areas.

Oct 19 9 km NE Lake Habbema, Netherlands New Guinea 2800 m
2 in 425 traps. The adult individual

was brought in by collectors. The juvenile specimen was taken in a trap set in running among litter of the open brushy undergrowth of the mossy forest.

Oct 24 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 414 traps. Taken in a small runway through the brushy litter of the more open mossy forest. Moss covered the ground and litter

Oct 27 9 km NE Lake Habbema Netherlands New Guinea 2800 m.
1 in 413 traps. Taken along the brushy edge between the sedge forest and the second growth bordering the stream.

Oct 28 9 km NE Lake Habbema Netherlands New Guinea 2800 m.
1 brought in by natives this afternoon. It had been recently killed indicating it was probably taken somewhere in the immediate vicinity.

Oct 31 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 413 traps. Taken in trap set in type of small log crossing the stream. The area was one of brushy second growth along the stream side bordering the sedge forest.

Nov 1 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by natives. It was still limp and warm so I assume it was taken somewhere in the immediate vicinity.

Nov 2 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 197 traps. Brought in by collector.

Nov 8 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
10 brought in by natives

Nov 11 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives

Pogonomys

Nov 13 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
8 brought in by natives.

Nov 16 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
7 Pogonomys brought in by natives.

Nov 17 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
10 in by natives.

Nov 19 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
11 brought in by natives.

Nov 20 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 23 Bele R., 18 km N Lake Habbema Netherlands New Guinea 2200 m.
8 brought in by natives.

Nov. 24 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov. 26 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
10 brought in by natives

Nov. 26 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives.

Nov. 27 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 #6170 in 464 trap. Taken in forested area with open undergrowth of bush, lith, and a ground cover of leaves. The trap was set in an illdefined trail over the leafy forest floor.

Dec. 1 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec. 2 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

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Dec 3 Beli R. 18 km N Lake Habbema Netherlands New Guinea 2250 m.
I brought in by natives.

Mar. 27 4 km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
I shot yesterday evening by collecting boy. According to this report it was seen in the grass near the river bank.

Apr. 19 near Bernhard Camp Idenburg R. Netherlands New Guinea 400 m
I shot this morning by Versteegh. Locality was near main track to 850 m. camp. Habitat primary forest. According to Versteegh's report the animal was seen first on the jungle floor and then climbed a tree some 20 m (?) above the floor where it was shot. Stomach contained remains of fruit.

Wm. B. Richardson
1938

Pseudochirus

Aug. 4 Lake Habbema, Netherlands New Guinea. 3225 m.

Two of this genus were brought in July by a convict who had been cutting trees 200 yd south east of camp (See general account July 25, 1938). The following notes are accumulated observations during the past days captivity as well as observation made "on the spot".

Climbing: The front foot has three toes opposable to the other two much the same as the Phalanger but in this case there is a wider grasp as compared to the relative size of the hand. They seem to depend upon the grasp rather than the claws for traction. The hind foot is also well developed for grasping. The thumb is opposable as in Phalanger but as in the front foot this is a broader grasp. Both the hind and front feet are well developed for this grasping type of climbing. It seems to me that such feet are well suited for locomotion in and about low bushy thickets with a more flow. In feeding a traveling through the brush they can reach from one small branch to another. On traveling on a through the more thickly set with grasping feet permits a greater quantity of mass to be included in the grasp than the softer or thinner mass will bear their ~~wet~~ weight without sinking into the vegetation. ~~Such~~ Such sinking would certainly impede locomotion. The tail is of little use in locomotion it functions only as the animal progresses from limb to limb horizontally but acting as a brace or balance by resting on or curling loosely ~~about~~ about the limb behind. This activities whatever they be are far ~~more~~ quicker, there seems to be a nervousness to this action which is lacked by Phalanger ~~marsupialis~~

Abundance: These are the only two that I have seen during my stay here.

Plant associates: These two were taken just beneath the top surface of a moss clump. This clump was about the base of a Libocedrus which ~~forms~~ * forms a very open forest on the hill slopes of this region. The

dominant shrub being Rhododendron which form a moderately dense growth between and beneath the Rhododendron forest. The ground in this region is completely obliterated by a carpet of moss which about the base of the bushes and trees builds up into a hummock or clump. It was in the top of such a clump that the animals were found.

Voice: It utters no sound which I have heard. Sometimes when disturbed it sniffs.

Gregariousness: At best it is difficult to discern such habits or instincts in caged animals. ~~This~~ I can say that at all times the two caged animals sleep or spend their restful hours curled up side by side. Neither exhibits antagonism towards the presence of the other.

Nests: Four to six inches of moss was placed on the floor of the cage. Into this the animals pressed and dug into making a cavity near the center large enough to contain their two bodies. The entrance to from the side is about 5 inches in length. The seats on it be found in this nest; the seats being deposited outside in either corner of the box. This would suggest the presence of a "dungery" in connection with the nest of this animal under natural conditions. This nest and burrow was made during a period of three or four days by pressing themselves into the moss and fairly using the front feet to separate the moss in a digging fashion.

Food: Bananas, papaya, Fruits of Vaccinium and Gaultheria. The latter named fruit seems to be particularly relished, the fruits and leaves being both eaten. I have seen the animals search through the moss and eat the tender-looking green shoots of Lycopodium plants. The process of eating is much the same as with the Phalangers. The lower incisors being thrust into the fleshy part of the fruit and then the bringing the upper incisors down thus removing a piece for mastication. On one occasion the large of the

Wm B. Richardson
1938

Pseudochirus

this was observed drinking from the receptical within the cage. Drinking was accomplished by rapidly lapping up the water with the tongue. There was an occasional vigorous sidewise shake of the head as if it drew the particles of water received from getting the head too far into the water.

Miscellaneous notes: On being refuge when disturbed this animal looks about the floor of the cage for a hole or depression in the more rather than climbing to the top of the cage as would a Phalanger. A series of cut and folded branches are put within the cage but these are used only during the night when the animal is in search for the food placed a hung from the top of the cage.

The ears of this animal are capable of turning and folding in such a manner as to lie against the head thus preventing particles of moss etc to enter ears while it gangroom through the moss.

They apparently depend upon smell rather than sight for the location of their food and nest hole. This is quite apparent in the day time. Perhaps, (probably) their sense of sight is better at night.

Their resting position or sleeping position is in a close vertical coil with their head between their legs and their tail curved below around their feet in a loose coil. They sit on the basal portion of the tail as does P. Phalanger.

In descending vertically down a small limb the tail is not used but rather

The food is eaten by grasping it in the front paws and raising it to the mouth. The animal is usually in a hunched position when feeding.

In grooming itself it uses two methods one is to rapidly scratch itself with its hind feet. It appears as though the dactylous claws are used as a comb. After a brief rapid scratching it licks the claws as if to remove hair etc from between the claws. The other method is to

run the lower incisors through the fur. This latter type of gnawing I have seen employed only once and then the after coat stuck through the pouch of the incisors were left in the pelt.

Food: Dedea berries, and flower of Rhododendron.

The main use of the tail seems to be when the animal relaxes hold of the branch it is on with the front feet and reaches out for another branch, food, etc. Then the tail reaches to another branch in the rear so as to give an additional grasp other than that of the hind feet. The animal does not hesitate about sitting on a small limb eating holding food with the front feet and letting the tail hang downapparently useless except possibly as a balancing organ. Even when walking on clinging to the top of cage the tail is not used prehensile and when it is coiled loosely about an object the dislodging of the tail does not seemingly affect the security of the object.

The agility of the animal reminds me much of that of a rat. It often jumps from short distances from one to another. It does not hesitate about going down head first, can turn in reverse direction of travel easily; can crawl along top of cage or bottom of small branches, and can go straight up or down a limb with equal agility.

Their activities are limited almost entirely to the night time regardless of the artificial light. During day when disturbed they are often semi active for a short period.

Aug 5 I have been watching the beasts for some time this evening by lamp light. The most important thing is that the female ate the posterior half of its young and discarded the remainder on the floor. It ate its young with apparent nonchalance and quite often while it cleaned itself, licking its hands, wiping its face and licking

Pseudochirus

its pouch. It is too bad to lose the specimen but I did not realize the ♀ carried young until this evening.

This was eating the fruits and flowers of Gaultheria. The young can also be seen on its food list.

Preening: Licking of its hands and wiping face with some. 15-25 % of this time during hours of activity are spent in preening. The hind foot is employed most of the time in this process with repeated licking of the hind toe claw during preening. About every three seconds of scratching the claws are licked.

Aug 6 Prepared the ♂ as a specimen today #4C11. The teeth are apparently those of an adult but the testes were very small measuring 3 x 2½ mm. The scrotum was not in a long pendulant sack as other marsupials like the Phalanger but rather in a short sack which did not hang below the form of the animal.

Large brown eyes with small black pupils.

Large ears measuring 220 mm. X 17 X 10 There are many folds throughout its length.

The half extra young were preserved in formalin #C10

Aug 10 Lake Habbema, Netherlands New Guinea 3225 m.

This morning there was no individual taken in the 387 traps. It was caught in a rat trap set in a mossy trail through a very thick bread-rhododendron canyon slope. The one thing that characterizes this region from others in this study that when the bread varies from 8' to 12' high and some 125' x 400' along the sides of a small canyon. About the base of the thicket is a heavy mat of moss which often extends for 3' or 4' upon the bread trunks as stems.

Aug 12 Lake Habbema, Netherlands New Guinea 3225 m

1 in 375 traps. This animal was caught in a mouse trap set at the entrance of a burrow at the base of a tree in the mossy forest. The forest in this region was quite heavy forming a

thick canopy which did not permit a heavy undergrowth of brush. There was practically no undergrowth except for the moss and its associated plants which clung to the trunks and limbs of the forest trees. The burrow was dug in the earth and moss at the base of a small tree. The stomach contained fleshy parts of fruits and flowers.

Aug 14 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 375 traps. This individual according to the collector who brought it in was taken, (Helmuth trap) on the top of the ridge which was north from camp. In this region there are large stands of bushes tall (10 ft) and short (3 ft) with small intervening spaces of moss covered ground. There is also moss about the base of the thickets and on the brown limbs and branches of the bushes. The stomach of this animal contained finely masticated fruits fleshy parts of fruits and what appeared to be flowers (identification)

Aug 18 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 375 traps. Individual brought in by collector who said it was taken in the forest in the same line of traps and probably in a similar type of habitat as specimen taken Aug 12.

Aug 20 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 21 stick traps. These two individuals were taken in a heavy mossy forest in traps set on the moss ground. There were well marked runways all over the forest floor and it was in these runways that the traps were set. The forest here is one of heavy high (20-30 ft) rather thick a forest canopy. The heavily forested as it might be called has a quantity of low limbs and branches near the ground which were clothed in moss. Scattered through this forest were large trees protruding above the heavy brush.

Pseudochirus

Aug 21 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 387 of 12 stub traps. One ♂ was taken along the brushy lake shore across the bay from camp. Here there is low (4 ft) but thick brush with a moss ground cover clumped up about the base of the brush. The trap was set at the entrance of a large (5 in.) hole entering one of these clumps. Previously I had caught Stronomys in the same trap. The other a male was taken in the same habitat and locality as those taken Aug 20.

Aug 22 Lake Habbema, Netherlands New Guinea 3225 m.
A skull of an adult animal was brought in yesterday by Kard. According to him it was found on the top of a moss clump with a portion of the skeleton. A similar one was previously found by him. There is no clue as to why or how it got there.

Aug 24 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 384 traps. One was taken ~~by~~ in a rat trap set in a small area of brushy forest above the outlet stream. Here there is brush 8-14 ft high with scattered trees and a heavy moss ground cover. The other was taken in the brushy forest 1 km N.W. of camp. The heavy brush 10-14 ft high with scattered trees and a ground cover of moss. This moss not only covers the ground but the trees and limbs or trunks of the brush. The stomach of both individuals contained vegetable matter which appeared to be the fleshy part of fruits and flowers. The individual with the young had ~~4~~ two mammary glands only one of which was functional (giving milk) at the time. The young was detached from the teat when found.

Aug. 26 Lake Habbema, Netherlands New Guinea 3225 m.
1 adult ♂ with juvenile in 386 traps. The specimen

was taken in heavy brush bordering the mossy forest patch. (1 kilometer NNE of camp). Here the brush was 10-14 ft. high, scattered trees, and scattered small patches of low bamboo undergrowth. There was a mossy ground cover. Only one of the two tits was functional.

Aug 28 <u>Lake Habbema, Netherlands New Guinea</u>, 3225 m.

1 in 384 traps. Taken in the heavy brushy ridge border of the mossy forest patch situated 1 km. NNE of camp. Here there was a high stand of brush (10-14 ft) open enough to allow a heavy ground cover of moss and scattered small brush clumps. The moss was clumped so that the tops of bushes and it was at an advance to fall (5"-6" in depth) that the trap was set which caught the beast.

This heavy brush seems to be the proper type of habitat where there is an undergrowth of scattered small bushes and a ground cover of moss which covers logs, bases of bushes and is even in clumps on the limbs of the bushes itself.

Sept 3 <u>Lake Habbema, Netherlands New Guinea</u>, 3225 m.

1 in 9 stub traps. Taken in trap set at the approach of an arboreal runway. This route is apparently used by a rather large mammal for there is a pile of dung (¼" x 2") below. This larger mammal is as yet unknown to me. The region is the heavy high brush land bordering the mossy forest 1 km NNE of camp. The arboreal runway is the only peculiar thing about the locality. It is a horizontal branch 3" in width and about 10 ft long bridging a narrow canyon. The claw marks, the worn limb, and the dung indicate that it has been used frequently.

Pseudochirus

Sept 13 2 ♂♂ Mt Wilhelmina-top, Netherlands New Guinea 3560 m.
1 in 20 stick traps. The traps were set in a small runway through the open grass patch between two clumps of sub alpine forest. The space between the clumps was only about 10 ft wide and rather well protected by mossy ground and small scattered bushes. These possums are quite apparently as common here as of Wallaby for although I have spent considerable time looking for their signs yet to date I have not found any where as abundant Wallaby. It was quite common on moss covered branches in elevated moss clumps. The stomach contained finely ground remains of what appeared to be fleshy parts of fruit and flowers. The glandular portion to the stomach was small colored appearing as if usually functionally. (anon).

Sept 17 2 ♂♂ Mt Wilhelmina top, Netherlands New Guinea 3560 m.
1 in 20 stick traps. Taken in the same trap set in the same place as the individual taken on Sept 13, 1938.

Sept 28 2 ♂♂ Mt Wilhelmina, Netherlands New Guinea 3800 m
1 in 101 traps. Individual taken in runway skirting the sub-alpine forest where it bordering a tall grass hill slope. The forest is situated in a narrow band beneath a rather steep bare stone cliff.

Oct 24 2 ♂♂ Mt Lake Habbema, Netherlands New Guinea 2800 m
1 in 4 14 traps. Taken in traps set in mossy fallen log. The general region was that of mossy forest on the upper edge of a stream bank. There are numerous fallen trees and much litter. Also patches of bunch in the open spots. The owl nest from which skulls were taken seems to indicate that this animal was at one time more common here than at present. I have

seen signs (droppings) along arboreal runways but the traps up to date have yielded only 1 from Bay regardless of the ~~many~~ number of apparently good sets.

Oct 26 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 409 traps. Brought in by collector who said it was taken in trap set in many trail on fallen log. Most of the legs and tail are more covered, some appearing trampled down by continual passing of feet. It was in such a trampled runway that the trap was set.

Nov 1 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
3: 2 Brought in by natives probably from below 2300 meters or so. 1 taken in trap set on mossy log along the undergrowth of the mossy forest. Mouning indicated that it had young. Its probably died when the parent became cold.

Nov. 5 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
1 brought in by a native. Probably taken some distance below camp.

Nov 10 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 308 traps. Specimen taken according to collecting boy in trap set in heavy forest on the steep stream slope.

Nov 13 Bele R., 18 km N Lake Habbema Netherlands New Guinea 2200 m
1 brought in by native.

Nov 15 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives. The juv. #5612 was in the pouch of its mother #5610. It was not holding on to the teat. There was only 1 of the 4 teats functional.

Pseudochirus

Nov 18 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 19 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov 20 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
6 brought in by natives.

Nov 22 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
6 brought in by natives. The large silver dark striped species exhibits something hitherto unnoticed by me and that is an oily patch between the front legs and slightly forward. It was particularly apparent in the ♂ individual, the hair in this case being caked and giving an unusual matted look to the hair. The female oil area was not as apparent, that is the hair was not caked down with the secretion but it was readily recognizable on parting the hair and examining the bases.

Nov 23 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 23 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
8 brought in by natives. There were 2 individuals with young in the pouch. In each case the juvenile follows the ad. ♀ in the catalogue.

Nov 24 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 27 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives. 2 ♀♀ with their young.

Nov 28 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives. 2 ♀ with their young.

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Nov. 29 Bele R., 18 km N Lake Habbema, Netherlands New Guinea. 2200 m.
1 brought in by natives

Nov 30 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec 2 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 ♂♂ with yng. brought in by natives.

Dec 3 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Jan 10 15 km SW Bernhard Camp, Idenburg R., Netherlands New Guinea 1800 m.
1 adult ♀ taken yesterday evening by a soldier. The beast was climbing about the ridge pole of the store tent. See photo. The pelt is very poor, many bare hair and a condition of the skin which resembles mange.
1 adult ♀ and juvenile ♂ shot by collector.
Jan 11 According to his story it was shot while climbing up a large tree in the mossy forest. It reached a height of some 30 ft before being brought down with gun. Stomach contained remains of material which appeared to be fruit.
Jan 19 1 adult ♂ shot by Roads collecting boy. According to him it was climbing along a log a few feet off the ground. The stomach contained remains of what appeared to be finely masticated fruits.

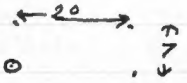
Feb 3 18 km SW Bernhard Camp, Idenburg R., Netherlands New Guinea 2150 m.
1 shot by Fiedler. According to his report it was climbing up a small tree some 2 meters off the ground. Apparently this species moves about during the day for three specimens have been taken, each in the morning while they were crawling about the second story vegetation.

Mar. 21 4 km. SW Bernhard Camp, Idenburg R., Netherlands New Guinea 850 m.
1 shot yesterday evening by myself.

Pseudochirus

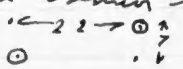
It was seen in one of the small second growth trees at near the river edge of the flood plain. It was sitting on a small branch some 15 ft above the ground. The tree was small clean branches and open foliage. For a distance of some 10 ft ~~up~~ the trunk was lighted with vine and entangled vegetation. Below the tree was heavy undergrowth. The animal made no attempt to escape but remained motionless on the limb. The young in in alcohol.

The pouch (opening) is U shaped 20 mm deep and 12 mm across base of U. Posterior lip of pouch to vagina 58 mm. Measurement of pouch 50 long by 40 wide. From base of U to posterior tip to which young was attached 30 mm.



Stomach contain remains of fruit only.

Mar. 29 4 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
♂ (2 Juv.) shot yesterday evening by collecting boy. He said he shot it from a fruiting Eugenia tree, a common tree of the flood plains. The pouch contained 2 young (in alcohol).
Pouch opening is 12 deep × 10 across base (broad).
Posterior lip of pouch to vagina 62
Dimensions of pouch 58 long × 50 wide.
From anterior base of pouch to anterior tip ~~was~~ 24 mm.



Apr. 2nd ~~bought in by myself. Shot yesterday~~
I shot yesterday evening. It was seen crawling through the undergrowth, some 4 ft above the ground, in the forest of the flood plain. Eyes had a dull red shine. Stomach contained remains of fruit.

Wm. D. Richardson
1938

Pseudohydromys

Aug 8 Lake Habbema, Netherlands New Guinea 3225 m.

1 individual in 388 traps. This individual was brought in by one of my collectors from the line of traps about the north bay shore. I shall find out the exact trap in which it was caught tomorrow. The tarsi were long as preserved specimens and the teeth worn showing that this small beast is an adult male. It lacks the molted tips, and the numerous inclusions of Hydromys. The stomach contained what appears to be vegetable matter (see detailed material)

Aug. 9 Today the collector showed me the exact trap in which the above was caught. The trap was set in a small runway some 3 ft from the mattress edge and over a step 1½ ft. mossy bank. The general region was that of low Rhododendron ~~th~~ bushes with moss covering the ground and clumping up about the bushes. It was from one to another of these moss clumps that the trail led.

Sept 8 2 km NE Willemina Top, Netherlands New Guinea 3600 m.

1 in 187 traps. The trap was set at the base of the boulders cliff. Here the vegetation was separated several inches from the wall leaving a natural runway in a relatively well sheltered yet moist region. In this particular spot the ground was quite moist and covered with lichens and moss. In the immediate vicinity there was a rather good growth of moss-bank which permitted scattered ~~[illegible]~~ patches of grass.

Sept 11 2 km NE Willemina Top, Netherlands New Guinea 3560 m.

1 in 404 traps. Another adult ♂ taken in the same trap in the same spot as the individual taken on Sept 8.

Sept 14 2 km. NE Wilhelmina top, Netherlands New Guinea 3560 m.

1 in 404 traps. Brought in by collectors who said that it was taken in grass bordering the bushy hill slopes. Stomach contained animal matter. There was no signs of sexual activity, testes small.

Jan 14 15 km SW Bivouac Camp, Idenburg R., Netherlands New Guinea 1800 m.

3 in 425 traps. Specimens taken on open a moderately open, mossy forest floor. The vegetation is that characteristic of the mossy forest in this vicinity, scattered large trees, moderate ground stratum and undergrowth. This genus has been taken in this camp previously to this date and catalogued with genus accounts as Melomys. For previous and more complete notes on habitat of this genus see the accounts under Melomys as "small gray species".

Jan 16 1 in 420 traps. Brought in by collector.

Jan 17 2 in 419 traps. Taken on mossy forest floor near litter logs and undergrowth.

Jan 19 1 in 421 traps. Brought in by natives.

Jan 20 2 in 421 traps. One was taken at the edge of a litter log and the other at the base of a large tree. In each case the trap was set in a small runway and baited with dry fish. I examined the stomach contents of both these individuals. Each contained what appeared to be insect remains as well as short segments of angle worms. Vegetable matter seemed to be lacking except for small bits which I assumed were eaten along with the insects.

Jan 21 1 in 421 traps. Brought in by collector. Stomach contained remains of insects, annelids, and possibly other small invertebrates.

Jan 22 1 in 28 snap traps. Brought in by collector.

Jan 23 1 in 421 traps. Taken beneath log in the litter of the mossy forest.

Jan 25 1 in 420 traps. Taken in runway leading from a burrow in the moss at the base of a large standing tree. Burrows such as this are not uncommon about the moss which covers the upper roots (would be cut roots) of many of the trees.

Jan 26 4 in 419 traps. Taken in a moss covered litter such as logs, etc. Seem to prefer a moist protected (sheltered) runway over the moss.

Jan 29 1 in 218 traps. Brought in by collector.

25 mB. Richardson
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Pseudohydromys

Feb 4 18 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 2150 m.
1 in 4'5 traps. Taken in trap set in small runway at the side of a log on the forest floor. This floor was mossy and partially covered by the leaf litter of bamboo. There was a heavy undergrowth of bamboo, scattered secondary trees in a mossy forest.

Feb. 5 1 in 411 traps. Brought in by collector

Feb 6 2 in 411 traps. One brought in by collector, the other taken in runway over the forest floor ~~at the~~ fording litter. Habitat Mossy forest with bamboo undergrowth.

Feb. 7 1 in 411 traps. Taken in habitat consisting of mossy forest with bamboo undergrowth. Brought in by collector.

Feb 8 3 in 411 traps. Taken in runway ~~at~~ in a near littered area in Mossy forest with bamboo undergrowth.

Mar. 16 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 155 mouse traps. Taken in trap set in obscure runway. Habitat moist hill slope with leaf and litter, patchy undergrowth, thick secondary, scattered big tree. This area was on a slope of one of the low ridges above the flood plain. (Upstream from camp). Judging from skull, skeleton & tube I believe this beast is not adult. Stomach contained fruit remains and few insect remains.

Wm. B. Richardson
1938
1939

Pteropus

July 9 Hollandia, Netherlands New Guinea sea level.
Yesterday evening while hunting through the jungle with flash light I found a single fruit tree in which bats were feeding. Such trees containing bats are easily located within the jungle by the intermittent loud squeaks and the falling of their bitten middens. There were 50 or more individuals in the tree of which I obtained four specimens. Their eyes are easily to shine at night, giving forth a pale orange yellow light. The bats when seen were hanging head downward by their feet in the prominent foliage apparently feeding in this position.

July 12 8° 4 km. W Tabati, Netherlands New Guinea
Four of this genus were brought in today from Mr. Burkman. It lives two kilometers inland from Tim on the road to Sentani. According to the natives description they were shot in the evening while feeding in a nearby kapok (sp.?) plantation. Two Dobsonia were also brought in at the same time by the same boys.

Apr. 1 4 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
I shot yesterday evening by collecting boy. According the were three of these bats feeding in a tall tree.

Apr. 12 Bernhard Camp Idenburg R. Netherlands New Guinea ~~75~~ 50 m.
I shot yesterday by Rand. According to him it was hanging solitarily in a tree.

Apr. 27 18 shot yesterday afternoon. They were hanging up in the second growth trees at the head of the lagoon. There were been 30 and 40 individuals in the colony when first seen but when shot at they broke up into smaller

groups lighting on trees some 200 to 500 yd distant. They seemed to stay in the second growth trees bordering this portion of the lagoon. At night they with opaque light green foliage which made the individuals at rest plainly visible. When coming within 100 ft. of them they would take to wing circling about once or twice and coming to rest some 200 or more yds distant. When undisturbed they remained hanging and occasionally flapping of the wings as if to cool themselves. They were not clumped together but rather singly a distance of 4 inches or more from nearest neighbor. Mr. Yorn who stayed on this colony reports that this morning there were between 100 and 200 individuals. He obtained 40 odd for his Dyaks.

May 3 Bernhard Camp Idenburg R. Netherlands New Guinea 50 m.

7 shot. They were hanging in the cane breaks bordering the Idenburg River. They were hanging up singly, with the exception of 2 on 3 and 2, three to 5 feet above the water. They were not hanging in the dense thicket but rather in the thinner parts where they were readily visible from the ~~above~~ river. They made no attempt to fly when approached within 20 ft.

20 mi B Rodenborn
1938

Rattus

June 21 Hollandia, Netherlands New Guinea

A single male ~~sq~~ animal was brought in this late afternoon by one of the Dyaks. He had caught it in a run the lush grass which grows about an godowns. This grass is common in the lowland, uninhabited sections of Hollandia.

June 23 Hollandia, Netherlands New Guinea.

Yesterday evening 8 of this genus were brought to me by people from Cuyu Pelu. They had caught them in their camping on the small island of the same name. This island is located at the mouth of Hollandia Bay about 1 mile east of Hollandia itself. Price paid was 5¢ for a young and 10¢ for an adult.

This evening three more young were brought in by boys from the same island. They were purchased for 15¢.

June 24 Hollandia, Netherlands New Guinea

Seven Rattus rattus were brought in by a Sentani Papuan. He had caught them in the house of his camping "base" on the lake. They were purchased for 40¢

Caught another of a different species in the 091 traps. It was taken in the Noin forest north east of Hollandia.

June 25 Hollandia, Netherlands New Guinea.

Two young of this species were brought in to me this evening by one of our Makassar coolies. It was caught in the vicinity of the godown at the water front here in Hollandia. ~~It~~ They were taken near the same spot that the June 21 animal was taken.

June 26 Hollandia, Netherlands New Guinea

While at Tobati this morning one of the boys spotted rat and all of the youngsters were in the shallow water below the village after the animal,

When I saw the beast it was vainly attempting to escape by swimming. After several captures and subsequent it was secured by a string and I purchased the animal for .10¢

June 27 Hollandia, Netherlands New Guinea.

One individual was brought in this afternoon by a native from Tobati. According to his story he caught it about the house in his compong.

June 28 Hollandia, Netherlands New Guinea.

One of the Dyak coolies brought in one individual last evening. Apparently he had caught it in a near their living quarters back of the godowns.

June 29 Hollandia, Netherlands New Guinea.

One individual was brought in by a Malay collector who said he had caught it in one of his 25 traps set in the jungle. It seemed my that it was caught in the jungle. It is the same sp. we have been catching about Hollandia lowlands. Two of a different species were brought in by the Papuan collectors. They were taken in their 100 traps which they have set in the rain forest 1 kilometer north east of Hollandia.

June 30 Hollandia, Netherlands New Guinea

A juvenile was caught in one of the three traps I gave to the Makassar coolies to set in a near their room. This room is an old godown near the river and surrounded by a dense grassy vegetation.

July 3 Hollandia, Netherlands New Guinea

One individual caught in 443 traps. It was taken by the Papuan collectors. They have caught all of this species of Rattus in their 100 traps set in the jungle north of Hollandia.

Wm B. Richardson
1938

Rattus

July 4 Hollandia, Netherlands New Guinea
Purchased (104) a juvenile of this genus from one of the local Papuans. According to his story he caught it here in Hollandia.

July 7 Hollandia, Netherlands New Guinea
My Papuan collector brought in another individual from those traps set in the jungle north of Hollandia.
Purchased (104) another local Papuan. He came in carrying the live individual by the tail so I assume that it was taken in the immediate vicinity.

July 9 Hollandia, Netherlands New Guinea.
Papuan collectors again came in with another individual of the same sp. as brought in on July 7 etc.

July 10 Hollandia, Netherlands New Guinea.
Papuan collectors brought in another rattus from their jungle set north, east of Hollandia.

July 12 Hollandia, Netherlands New Guinea
Two of this genus today. The smaller one purchased yesterday evening from a local papuan. The other was taken by my Papuan collector in the jungle north northeast of Hollandia.

July 16 Hollandia, Netherlands New Guinea.
Two juveniles were brought in from Tabati.

Aug. 2 Lake Habbema, Netherlands New Guinea. 3225 m.
Two individuals were taken today in the 372 traps. 4 from the grassy stream side of the grassy valley north east of camp and the other along the tall open grassy border of the lake. These animals were taken in traps set in runways through the grass. They differ from the larger Stenomys runways in that they

are more directional and less maze-like. The stomach contained grass and other green vegetable matter rather than the fruit of the Strangyle stomach. One individual had a number of parasitic round worms in the stomach. These are preserved by Dr Tinsperm. There were no entrys in the ex spend today.

Aug 3 Lake Habbema, Netherlands New Guinea. 3225 m.
3 individuals in 394 traps. The one individual which I took from the trap was caught in a rather small runway ~~run~~ through the high grass near the water edge.

Aug 4 Lake Habbema, Netherlands New Guinea 3225 m.
1 individual in 394 traps. This specimen was taken from ~~the~~ along the stream side where a heavy grass is to be found in the valley south east of Camp.

Aug. 5 Lake Habbema, Netherlands New Guinea 3225 m.
1 individual in 394 traps. This individual was taken in a trap set in the high dense grass immediately bordering the ~~water~~ water edge of the bog. Though this dense grass border there is numerous runways of rather a large size. The region is within 100 yd of the nearest bush a trees, the surrounding country being grass and reeds in a semi swampy valley.

Aug 7 Lake Habbema, Netherlands New Guinea 3225 m.
1 individuals were taken in the 388 traps. It was taken in a district that thru the heavy grass grass which borders the small stream in the grassy valley. There were here scattered bushes which were barely higher than the grass.

Aug 9 Lake Habbema, Netherlands New Guinea 3225
1 individual in 388 traps. It was taken in the heavy grass border of the lake. There was a small well defined trail in which the trap was set. A short

Rattus

distance away was a rododendron thicket with moss hanging down its base.

Aug 10 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 381 traps. These two were caught in the grassy thickets bordering the lake shore.
This evening I saw one of these beasts alive. It travelled in a semi hopping fashion rather than the running gait of Rattus.

Aug 11 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 381 traps. The animal was taken in the heavy grass border of the lake. Here there are numerous runway through the grass.

Aug 12 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 375 traps. This animal was taken in a trap set in an ill defined runway through the tall thin grass bordering the heavy grass and reeds of the lake shore.

Aug 13 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 375 traps. It was brought in by my collectors & I do not know when it was taken.

Aug 15 Lake Habbema, Netherlands New Guinea 3225 m.
3 in 375 traps. Two were taken in the heavy grass bordering the lake shore the other in the heavy grass near the tree fern thicket west of the bay. There is one thing constant in this habitat preference and that is heavy grass near or bordering a moist region.

Aug 18 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 375 traps. Brought in by collector who said it was taken in the heavy grass bordering the outlet stream of the Lake.

Aug 21 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 387 traps. One was taken along the heavy grass bordering the outlet stream of the lake, the seemingly usual type of habitat of this species. The other was taken up on a heavy low bushy ridge. Here there was a rather dry condition although there still existed a ground cover of moss. There was also scattered grass through the brush.

Aug 25 Lake Habbema, Netherlands New Guinea 3225 m.
1 in 386 traps. Brought in by collectors from lake or outlet margin or in wet tussock forest above outlet stream.

Aug 26 Lake Habbema, Netherlands New Guinea. 3225 m
1 in 386 traps. Brought in by collectors.

Sept 8 2 km. NE Wilhelmina Top, Netherlands New Guinea 3600 m
1 in 483 traps. Brought in by collectors. Probably taken in the heavy grass bordering the camp valley stream.

Sept 11 2 km NE Wilhelmina-top Netherlands New Guinea 3560 m.
1 in 404 traps. This individual was taken in ~~on~~ the forest beneath a tangle of mossy logs. It seems to me that this is rather a queer place to find such a beast, away from what one seemingly its normal haunts of grass thickets. However there was such a thicket within 15 ft of the trap and within 2 ft of the trap there was a thin small patch of sedge.

Sept 12 2 km NE Wilhelmina-top Netherlands New Guinea 3560 m
One individual was caught after having been watched from its nest. The nest was situated near the center of the camp valley in a rather marshy wet, short grassy region. ~~At~~ Here there was a rhododendron hummock that 5 ft across and 2 ft high. It was in this

Rattus

mass of stiffly branches and drooping velvet matter that the nests (2) and burrows were constructed. There was a way of passage through the burrow with 4 or more exits. Two of the nests were apparently in use at present, but the third was a decaying mass which was in no longer in use. The two new ones consisted of a mass of shredded grass material crammed into a a cavity about 10 inches in diameter. There was no apparent entrance or exit to the nest but rather a ball of grass etc. into which the rat could only enter from any angle. The nests were free of droppings and showed signs of being grass being continually added for that on the outside was moist and older looking (moldy) than that of the center of the nest. I had an opportunity to see the rat in motion and to my surprise it did not use a hopping gait as the long hind feet would indicate but rather a running gait was used to escape us; it was not unlike that of Rattus.

Sept 15. 2 km. NE Wilhelmina top, Netherlands New Guinea 3560 m.
1 in 363 traps. Brought in by collector.

Sept 17. 2 km NE Wilhelmina top, Netherlands New Guinea 3560 m
2 in 358 traps. One was brought in by the collectors the other was taken in a small swamp through thick grass about a secondary pond in the camp valley. The entire region is grass with a particularly heavy growth of hard grass that bordering the pond. It was in this heavy grass border (5"-10" thick) that the animal was taken.

Sept 21 2 km E Mt Wilhelmina, Netherlands New Guinea 3800 & 4050 m
3 in 104 traps. These three individuals were all taken in more or less a similar type of habitat, that is on the heavy grass hill slope where there were scattered protruding rocks and coniferous trees.

It is my belief that these animals are to be found on the grassy hillslopes up to 4250 m and possibly higher.

Sept 22 2 km E Mt. Wilhelmina, Netherlands New Guinea 3800-4050 m.
3 in 104 traps. These individuals according to the collectors who brought them in were taken in the heavy grass of the mountain slope. Probably ~~and~~ in much the same habitat as those taken yesterday (Sept 21.)

Sept 23 2 km E Mt. Wilhelmina, Netherlands New Guinea
3 in 104 traps. They were taken in the heavy grassy cover with scattered bushes and boulders. The traps for the most part were set near boulders or bushes for here runways are more clearly visible and better defined. This does not indicate however that this rodent does not inhabit the solid grassy cover. There are trails, many of them, leading through the grass. They might be considered as a maze of trails rather than any one well defined trail.

Sept 24 2 km E Mt Wilhelmina, Netherlands New Guinea 3800 m.
2 in 104 traps. Taken in runways through the tall grass covering an old tellus slope with scattered bushes and exposed boulders.

Sept 25 2 km E Mt. Wilhelmina, Netherlands New Guinea 4000 ft.
1 in 104 traps. Taken at the base of a rocky cliff at the edge of a old tellus slope which has become completely vegetated with a tall grass.

Sept 26 2 km E Mt. Wilhelmina, Netherlands New Guinea.
2 in 104 traps. Brought in by collectors. The adult ♂ was said to have been taken in the heavy tall grass covering an old tellus slope.

Rattus

Sept 27 2 km E Mt. Willelmina, Netherlands New Guinea 3900 m.
4 in 104 traps. On ridges. Individuals were taken in the tall grass on hill slope on at the edge of and grassy areas where they border the gen sub-alpine forest.

Nov. 1 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
3 brought in by natives today. The rats were probably taken near their villages below 2300 m ±.

Nov 3 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
19 brought in by natives. They were probably taken near the small native settlements about 2300 m.

Nov 6 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
7 brought in by natives.

Nov 7 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov. 8 Bele R., 18 km N Lake Habbema, Netherlands New Guinea, 2200 m.
9 : 1 in 218 traps, 8 brought in by natives. The one from traps *5394 was set in a runway through the tall grass of the an old garden clearing. There was also secondgrowth trees in the immediate area.

Nov 9 Bele R. 18 km N Lake Habbema, Netherlands New Guinea, 2200 m
26 brought in by natives.

Nov 10 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
8 brought in by natives.

Nov 11 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
12 brought in by natives.

Nov 12 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m
5 brought in by natives.

Nov 13 Bele R. 18 km N Lake Habbema, Netherlands New Guinea, 2200 m.
25 brought in by natives.

Nov 15 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by native.

Nov 18 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
59 brought in by natives.

Nov 19 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 taken in 416 traps. In mossy thicket grassy open in second growth garden clearing.

Dec 9. Balim R., Netherlands New Guinea 1600 m.
1 found by Bruce dead in a small native trap about ½ mile down the river and on the ~~left~~ right slopes of the east bank of the river, in an old garden clearing.

Dec 10 Balim R. Netherlands New Guinea 1600 m.
1 in 199 traps. Taken in a small mossy thicket grass which lined the a small wash.

Dec. 11 Balim R., Netherlands New Guinea 1600 m.
2 in 388 traps. Taken by collectors in traps set in an about abandoned garden land or neighboring washes.

Dec 12 Balim R., Netherlands New Guinea 1600 m.
1 in 380 traps. Brought in by collectors as on Dec 11 from same trap line.

Dec. 13 Balim R., Netherlands New Guinea 1600 m
25: 2 in 380 traps. # 7177 brought in by collectors
7175 taken in a grassy thicket bordering a ditch at the edge of an abandoned garden. 23 were brought in by natives.

Dec 14 Balim R., Netherlands New Guinea 1600 m.
9 brought in by natives.

Rattus

Dec 15 Balim R., Netherlands New Guinea 1600 m.
12: 9 brought in by natives, 3 in 370 traps.
Habitat is that of the grassland which occurs in the abandoned gardens, old cut over areas.

Dec 16 Balim R., Netherlands New Guinea 1600 m.
2 in 359 traps. brought in by collectors.

Dec 18 Balim R., Netherlands New Guinea 1600 m.
3 in 357 traps. brought in by collectors.

Feb. 16 4 Km. SW Bernhard Camp, Idenburg River, Netherlands New Guinea 1200 m.
1 in 223 traps. Taken in runway through moist clearwell bordering a streamside. The clearwell was quite open and with a heavy canopy of forest trees. Stomach contained remains of fruits and insects, the latter resembled ants.

Feb. 17 1 in 223 rat traps. Brought in by collectors.
8 mammary glands not ~~[illegible]~~ lactating. 2 ent.

Feb. 23 1 in 221 traps. One brought in by collectors. The other ♀ was taken in an obscure runway on the moist forest floor through the stream side undergrowth. ~~Heavy~~ Dense, two undergrowth and complete canopy of forest treetops. The female taken had 6 mammary which is consistently the number found on specimen collected Feb. 17.

Mar. 4 1 female bred near camp stream. Brought in by one of Roots boys.

Apr. 2 4 Km. SW Bernhard Camp, Idenburg R., Netherlands New Guinea 850 m.
1 in 2045 rat traps. Taken in trap set in runway bordering debris thicket at the edge of the stream. The debris consisted of fallen trees as well as vines washed in ~~on~~ during high water.
8 mammae; non lactating. 2 ent. Stomach contains ~~of~~ remains of some unidentified woody substance.

Apr. 3 1 in 205 rat traps. Brought in by collectors. Taken along brushy river bank. 2 ent.

Stomach contains remains of fruit, what appears to be fungus, and a few insects.

May 7 Newland Camp Idenburg R. Netherlands New Guinea ~~50~~ 75 m.
1 in 27 etal types. Brought in by collector.
Taken on lower mountain slope, above flood plain.
Stomach contained remains of vegetable material, fruit, grass?, etc.

Wm. B. Richardson
1938.

Rhinolophus

July 15 Hollandia, Netherlands New Guinea.

Three specimens were taken yesterday 2 by myself in the cave, the 8:25 Hollandia and the other by my Papuan collector. The latter was taken at the mouth of the cave during its evening exit. (See notes of Hipposideros for they were found at the same place.).

Wm. B. Richardson
1938
1939

Rhinonycteris

July 13 Hollandia, Netherlands New Guinea
A specimen was brought in today by a Papuan. I could not determine from him where it was taken.

May 2 Bernhard Camp, Idenburg R., Netherlands New Guinea 50 m.
1 shot. Flying about the forested border of the flooded lagoon. It usually keeps 10 to 20 feet above the water and close into the vegetation. Its flight is slow with few breaks. The flight of this bat usually begins about 6:25 while the flight of Vespertilio and Emballonura is 6:05.

May 4 1 shot. In same locality as specimen shot on May 2.

Wm. B. Richardson
1938.

Stenomys

July 26 Habbema Lake, Netherlands New Guinea.

5 from 50 traps. Two of the five were taken in the moist sphagnum-bed thickets of the hill slope. There are small trails in and about these thickets in which the traps were set. These animals were taken in the runways intersect through the thick grass about the border of the lake. These runways formed a maze of passageways leading in every which direction. In these runways there was little or no day scen and only a few signs of cutting, there being blades of grass left in the runway. The stomach contents of these animals was all fleshy parts of fruit no green vegetation nor animal was observed therein. Of the three ♀♀ none showed signs of embryos nor of suckling young. The large ♀ had round worms in stomach and all were affected by an orange mite-like looking parasite which attached the ears, and rumps and other soft bare protected places. There is one thing that seems to be important to the habitat of this animal and that is a moist, but low growing vegetation such as is offered by the ~~[illegible]~~ moist and slow grass.

July 27 Habbema Lake, Netherlands New Guinea.

6 - 100 rat traps. These were taken on each of the two lines. Those caught in the line set along the dry ridges were collected by one of my collecting boys, the other three were taken in the traps set the 25th. One of these three were taken along a small trail in the bottom of a small gully. The trail was between two mossy clumps. The other two were taken in the grass along the lake shore. The stomachs of these animals contain what appears to be the fleshy parts of fruits. No seasonal activity in the ♀♀ neither suckling young nor embryos.

July 28 Habbema Lake, Netherlands New Guinea.

1 individual taken in the 100 rat traps. It

was taken and prepared by my collector as I can give no information as to its habitat, etc. He said however that it was taken in one of the traps set along the ridge north north east of camp.

July 29 Habbema Lake, Netherlands New Guinea 3225 m.
1 individual in 100 traps. This individual was brought in and prepared by one of my collectors. Dr. Toxopeus collected 2 or 3 ticks from this individual.

July 30 Habbema Lake Netherlands New Guinea 3225 m.
2 individual in 150 traps. Brought in by collectors from line of traps.

July 31 Lake Habbema, Netherlands New Guinea 3225 m.
2 individuals in 150 traps one of which is apparently of a different species. It is smaller in size with shorter skull, etc.

Aug 2 Lake Habbema, Netherlands New Guinea 3225 m.
15 individuals in 272 traps. There is apparently 2 sp. in the group and possibly a 3rd. The two juveniles of the smaller sp. were taken along the narrow stringy trails which are to be found in the short grass and moss situated along the lake shore. These trails are well defined and apparently have a definite direction. These trails often lead from one mossy clump to another before the trail is replaced by a burrow. These small well defined trails are quite in contrast to those of the larger species of Sminthopsis. Many of the latter species being large and with no apparent direction in mind but rather a maze of more or less defined trails throughout the region in which it exists. Often as the smaller species inhabits the short grassy regions and open mossy regions, the larger sp. prefers the dense grass thickets or bushy regions where there is a tangle of shrubs and

Stenomys

mouse. In such cases when this trail has a definite direction is when it follows a natural course as a small gullie or thin grass margin.

Aug 3 Lake Habbema, Netherlands New Guinea. 3225 m.

11 of this species were taken in 394 traps. These specimens were taken in similar type of habitat as described above. There is one thing worth noting and that is the occurrence of the larger darker form in the moister heavier grass growth while the small brown sp. is to be found in the drier thinner grassy region.

Aug 4 Lake Habbema, Netherlands New Guinea 3225 m.

8 individuals in 394 traps. The larger species has apparently inhabited a rather broad habitat. Today I caught an individual along the small trails in the low grass about the lake shore. It was in this type of habitat that I have previously caught the smaller species of Pogonomys.

Aug. 5 Lake Habbema, Netherlands New Guinea 3225 m.

6 individuals in 394 traps. Two of the larger species were taken along in the traps set in the large runways through the heavy grass on the eastern western edge of the bog shore. There are numerous trails through the dense high grass on the immediate border of the lake. In similar sets I have also taken Rattus and Hydromys. Grass and reeds are the dominant vegetation within 100 yd of this region. All ♀'s were examined for embryos but none contained such.

Aug 6. Lake Habbema, Netherlands New Guinea 3225 m.

14 individuals in 388 traps. Of the 12 which I removed from the 191 traps set along the

stream in the grass valley east of camp and continuing up the and over the ridge north of camp. There is a wide variation in the types of habitat in which they are found. They were taken in traps set in grass thickets, in brush thickets, along about mossy seeps, and one was taken beneath a dense high (1.4') broad thicket in a small canyon. The vegetation was too dense to permit an undergrowth of grass or moss but rather the ground was covered with black, wet, rotting leaves.

Aug 7 Lake Habbema, Netherlands New Guinea. 3225 m.
13 individuals 388 traps. These individuals were caught in broad habitat with moist dense or semi dense ground vegetation (moss, grass, shrubs) seeming to be the only prerequisite for their existence in this region.

Aug 8 Lake Habbema, Netherlands New Guinea. 3225 m.
6 in 388 traps. Three of these six were taken in the grassy valley. Here they are nonexistent through the heavier grassy swamps and along the grassy small tributary gorges. The other three were taken along the grassy border of the lake.

Aug. 9 Lake Habbema, Netherlands New Guinea. 3225 m.
8 in 388 traps. I have nothing further to add as to their habitat but one thing that has intrigued me is the fact that most of the ♀♀ up to date which I have taken in my traps have had embryos. I have examined all ♀♀ with the possible exception of one or two and none to my knowledge have had embryos. Many of the ♂♂ on the other hand have enlarged testicles as though in or approaching the breeding season.

Aug. 10 Lake Habbema, Netherlands New Guinea 3225 m.
8 in 387 traps. These 8 were taken along the lake shore where there was a thin short grass on a mossy carpet. The traps in which they were caught were set in well defined trails

Sternomys

through the grass and moss. No individuals were taken in the traps set in the maze of trails through the thick tall grass.

Aug. 11 Lake Habbema, Netherlands New Guinea 3225 m.
3 individuals in 387 traps. The only one which I removed from the trap was caught in a small mossy through a narrow strip of semi heavy grass along the lake shore. Immediately back of (2 ft) this strip is the short grass the type that it is accustomed to inhabit.

Aug 12 Lake Habbema, Netherlands New Guinea 3225 m.
15 individuals in 375 traps. The thing that impressed me about this catch was that these animals were taken in a wide variety of conditions, the following types of plant cover: Mossy forest where there the trees were a bit thin letting sunlight into the rhododendron undergrowth and mossy ground cover; open low brushy thickets with a heavy ground cover of moss which is thinnest up about the base of bushes; dense grassy thickets along stream with the forest; low grass region along stream; grassy valley 11 ft from bank in the forest; along lake shore in thin grass region; along lake shore where there is heavy grass and reeds.

Aug 13 Lake Habbema, Netherlands New Guinea 3225 m.
4 individuals in 375 traps. They were brought in by my collectors so I do not know under what conditions they were taken.

Aug 14 Lake Habbema, Netherlands New Guinea, 3225 m.
3 in 375 traps. One taken along grassy lake shore, one in border forest where there was a heavy growth of bush, the other in the low brushy area with ground moss.

Aug 15 Lake Habbema, Netherlands New Guinea 3225 m.
5 in 375 traps. Two from brushy forest the others from the lake shore.

Aug 14 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 375 traps. One taken upon the tall grass near the brushy hill slope in the upper valley at west of the bay. The other was taken along the grassy lake shore.

Aug. 17 Lake Habbema, Netherlands New Guinea 3225 m.
2 in 375 traps. Both taken in the tall border grass about the lake.

Aug 18 Lake Habbema, Netherlands New Guinea 3225 m.
13 in 375 traps. Brought in by collectors. Taken in various types of cover.

Aug 19 Lake Habbema, Netherlands New Guinea, 3225 m.
10 in 375 traps. This animal ranges widely from the grass regions to the mossy beech forest. They do not seem to inhabit the dry ridges or other regions where the ground and moss is dry. They also do not inhabit the heavy forests regardless of conditions of moisture. Up to date none of the ♀ specimens taken have had embryos.

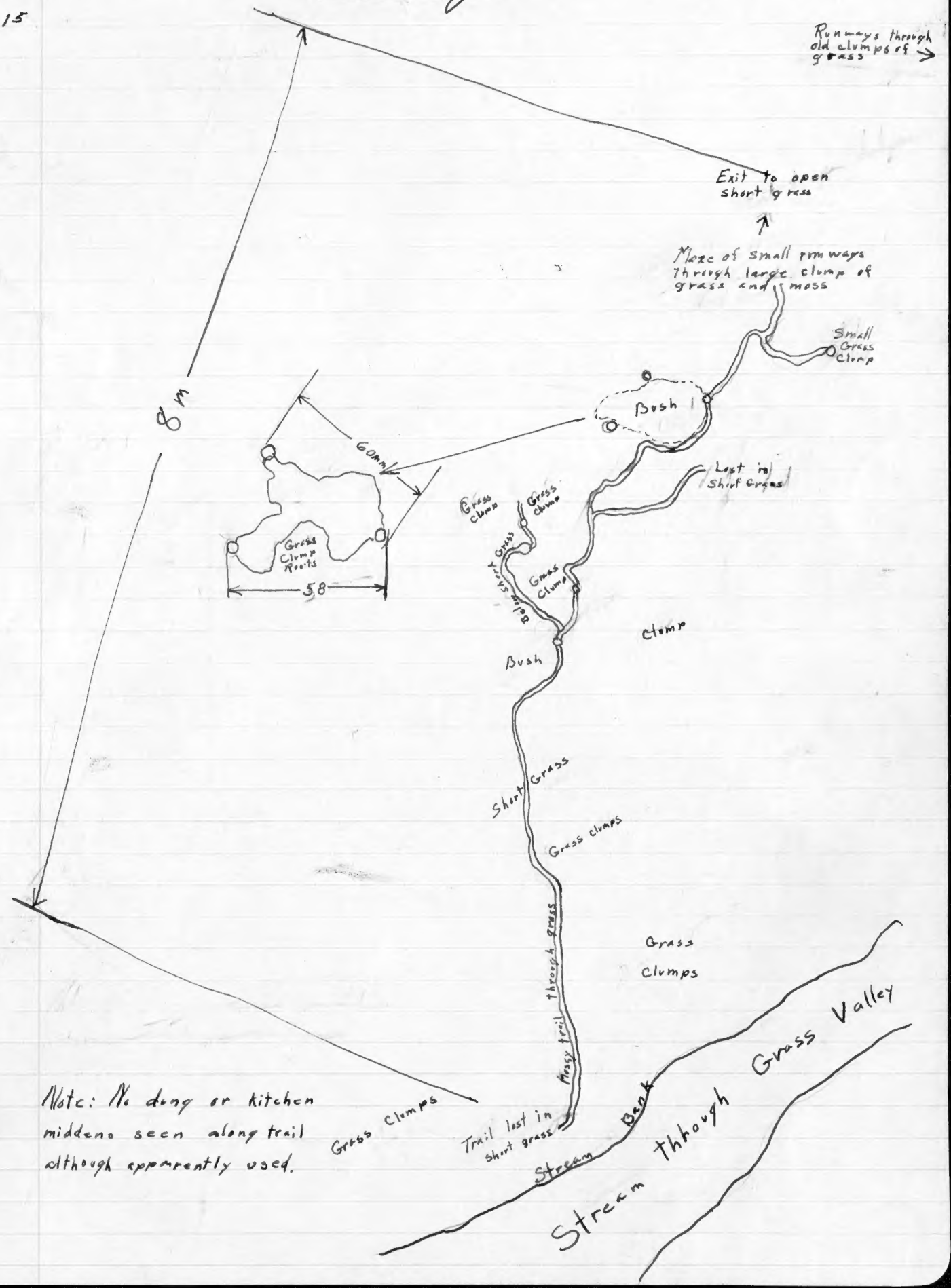
Aug. 20 Lake Habbema, Netherlands New Guinea 3225 m.
10 in 345 traps. Seven of these were taken in the grass or mossy beech areas along the lake shore the others were taken in the moss beech thickets on the moist hill slopes.

Aug 21 Lake Habbema, Netherlands New Guinea 3225 m.
10 in 387 traps. They were taken in runways along the grassy margins of the lake and its outlet.

Aug 22 Lake Habbema, Netherlands New Guinea 3225 m.
3 in 382+ (21 stick traps). The two specimens prepared were taken in runways through the grassy margin of the outlet stream. The other was brought in by a collector.

Stromys

Aug 15



Note: No dung or kitchen middens seen along trail although apparently used.

Aug 23 Lake Habbema, Netherlands New Guinea 3225 m.
8 in 386 traps. #4792, #4793, #4794, and #4803 were taken in border of the mossy forest 1 kilometer WNW of camp. Here there is a heavy growth of rhododendron and vaccinium brush, reaching a height of 8 to 12 ft. The brush is moderately open that in there is not a heavy canopy shading the floor. Over the floor is a heavy cover of moss which is clumped about the bases of the bushes and their low, sprawling branches. The elements of this cover that seem to differ from that of the forest in the open brush, lack of ferns, and a heavy mossy ground and basal brush cover. The other 4 individuals were taken along the lake and within grass margin. The color of the two species, the grass species and the border forest species is pronounced. Previously this has been difficult to recognize because of trapping in the grass region with bordering brushy area. The two species apparently intermingle in such regions.

Aug 24 Lake Habbema, Netherlands New Guinea 3225 m.
6 in 386 traps. The first three in the catalogue were taken in the brushy forest as described above, the others (3) were brought in by collectors. I am of the opinion that at least the forest species moves about some during the daylight hours. Yesterday one was found in a trap on rechecking it in the afternoon, and this morning an individual was disturbed by our approach and ran over the trail in which a trap was set. Archbold and I heard the trap go off and removed the warm animal from the snare.

~~Lake H~~
W. D. Richardson
1938

Sphagnaceae

Aug. 25 Lake Habbema, Netherlands New Guinea 3225 m
5 in 386 traps. #4818 taken in the brushy forest border with a heavy mossy ground cover. The others were taken by the collectors along lake shore or in brushy forest near outlet.

Aug 26 Lake Habbema, Netherlands New Guinea, 3225 m
3 in 386 traps. Brought in by collectors. The larger of had large mammary glands, not fructiferous but looked as though they had not been long out of nest. There were no embryos.

Aug 27 Lake Habbema Netherlands New Guinea 3225 m
5 in 386 traps. Brought in by collectors.

Aug 28 Lake Habbema, Netherlands New Guinea, 3225 m.
4 in 386 traps. The three prepared specimens were brought in by collectors. The one dissected with a crushed skull was taken at the edge of the mossy forest where the heavy brush meets the bare turf. The trap was set along a runway at the mossy base of a tree.

Aug 30 Lake Habbema Netherlands New Guinea 3225 m.
2 in 386 traps. Brought in by collectors. There is one thing that should be mentioned in this connection and that is the presence of bathwaxes and sphagnum moss which often pave their runways through the short grass region. These plants probably exist here because the little springs are better suited to their growth. Perhaps fertilization and dissemination have something to do with it. Nest, measured on the 15th of this month 18 cm. in diameter

Aug 31 Lake Habbema, Netherlands New Guinea 3225 m
4 in 386 traps. The three prepared as

specimens were taken from the traps by me. The first 2 were caught in traps set in the brushy edge of the mossy forest, the 3rd. in a grassy sink hole bordering the forest.

Sept. Lake Habbema, Netherlands New Guinea 3225 m.
2 in 196 traps. Both taken in brushy mossy forest boarder. (Previously described) Specimen is alcohol.

Sept 8 2 km NE Wilhelmina Top, Netherlands New Guinea 3600 m.
9 in 187 traps. 4 were brought in by collectors. The other were taken from traps set in small meadows about the base of the cliffs and along the borders of grassy valley and the brushy hill slopes. The specimens were taken in the heavy brushy region or in the grassy areas where grass was the only vegetation. The preference seems to be a mixture of the two, that is grass with scattered brush clumps or borders of grass and brush areas.

Sept 9 2 km NE Wilhelmina Top, Netherlands New Guinea 3540 m
10 in 381 traps. The first 3 were taken in the heavy grass bordering the campground stream. The grass is coarse and thick with meadows through it. The other 6 were taken on catalogue were taken by collectors from traps set on the hill slopes above camp.

Sept 10 2 km NE Wilhelmina Top, Netherlands New Guinea 3540 m.
5 in 381 traps. The first 2 in catalogue were taken along the thick grass bordering the stream. The other three were taken on the open brushy hill slope east of camp.

Sept 11 2 km NE Wilhelmina top Netherlands New Guinea 3560 m.
4 in 404 traps. The first in the catalogue for today catch was taken in a trap set in the grassy stream sink. The other were brought in by collectors.

Stevenson

Sept 12 2 km NE Wilhelmina-top, Netherlands New Guinea 3560 m.
9 in 404 traps. #4886 & 4888 were taken where the sub-alpine forest borders grassy areas. The other 6 were brought in by collectors from the line of traps which is on the hill slope NE & W of camp.

Sept 13 2 km NE Wilhelmina-top Netherlands New Guinea 3560 m.
2 in 404 traps. Both individuals were brought in by collectors from a line of traps set on the hill slope NE of camp.

Sept 14 2 km NE Wilhelmina top, Netherlands New Guinea 3560 m.
6 in 404 traps. Specimens taken in both grass land and sub-alpine forest.

Sept 15 2 km NE Wilhelmina top, Netherlands New Guinea 3560 m.
17 in 363 traps. 15 of the 17 were taken in the traps set yesterday along the lower slopes of the SW side of the camp valley. The traps were set principally in three types of habitat: grass land, sub-alpine forest, and the forest border. 75% of the individuals taken were caught in traps set in small runways in the border forest. In the other types of habitat were relatively sterile. No apparent signs of embryos have been found as yet in this species.

Sept 16 2 km NE Wilhelmina top Netherlands New Guinea 3560 m
9 in 363 traps. These were taken in small runways through the grass and moss in the border forests.

Sept 17 2 km NE Wilhelmina top, Netherlands New Guinea 3560 m
18 in 358 traps. Habitat as previously in the edge of the forest where the brushy growth meets the grass. It is in such places that the majority of the individuals are caught.

Sept 18 2 km N C Wilhelmina top, Netherlands New Guinea 3540 m
6 in 358 traps. 5 were brought in by collectors, the other was taken just inside the subalpine forest which borders the grassy valley.

Sept 20 2 km C Mt. Wilhelmina, Netherlands New Guinea 3800 m.
2 in 104 traps. One was brought in by collectors, the other was caught in a cutbank trap set in a Mallomys runway. The region was one of large tussocks which though one had been partly overgrown by bunch grass. About the jumbled of rocks and trees there are numerous runways and it was in one of these that the animal was taken.

Sept 21 2 km C Mt. Wilhelmina, Netherlands New Guinea 3800 m to 4050 m.
7 in 104 traps. This genus of mammal was taken from 3800 m to 4050 m, the entire length of my trap line. Flies on the apparent sp. here, one which inhabits the forest or border forest where it joins the grass land, the other, the grass land species. The latter is restricted to the lower levels, probably not going over 4000 m while the other goes considerably higher (4250 m?) up on the grassy hill slopes of the mountain.

Sept 22 2 km C Mt Wilhelmina, Netherlands New Guinea 3800-4050 m.
1 in 104 traps. According to the collector who brought in this individual it was taken at the base of a cliff or stone on the grassy hill slope. This hill slope is old, tussock overgrown & grass with few herbaceous plants, mosses and scattered coprosma bushes.

Sept 23 2 km E Mt. Wilhelmina, Netherlands New Guinea
2 in 104 traps. #4990 was taken at the lower end of my trap line where there is an open forest growth with an outer growth of

Stenomys

grass and herbaceous plants. It was taken in a trap set in a small runway leading from the grass beneath a security tree. The other individual #4991 was taken at the upper end of the trap line where a heavy growth of grass, and an undergrowth of moss covers an old talus slope. This slope is very steep and contains scattered cryptocrystalline breccia and exposed boulders.

Sept 24 2 km. E Mt. Wilhelmina Netherlands New Guinea 3800 m.

3 in 104 traps. The juvenile was brought in by collectors from the steel traps. Placed long tails partially vegetation with security trees, bush, herbs and mosses. The other two were taken on the ridge rather at the edge of the grassy talus slope, on beneath a coniferous tree and the other at the edge of the cliff. The one taken at the high altitude by the cliff was not the grassy form as I should have expected but rather the forest form. Apparently the forest form is more adaptive to conditions than the grassy form which I believe lives entirely within its grassy habitat.

Sept 25 2 km. E Mt. Wilhelmina, Netherlands New Guinea 3800 m.

3 in 104 traps. Taken in and about the tall grass of the talus. One individual a grass land form was taken in same trap as a forest form was taken in yesterday. No embryos. One specimen was taken in a small runways in the center, or near it, of the tall grassy talus.

Sept 26 2 km. E Mt. Wilhelmina, Netherlands New Guinea

2 in 104 traps. Brought in by collectors who said they were taken in the open beech forest where the heavy tall grass dominates the undergrowth.

Sept 21 2 km E Mt. Wilhelmina, Netherlands New Guinea 3890 m.
1 in 114 traps. Specimen discarded. Taken at edge of grassy patch in open sub-alpine forest.

Sept 28 2 km East Mt. Wilhelmina, Netherlands New Guinea 3800 m.
5 in 101 traps (1 discard): #5026 was taken in the middle of a tall (coarse) grass thicket which is in the bottom of a narrow steep (sid hill) canyon. The others were taken in small runways at the edge of this or similar grass patches, the sub-alpine forest border.

Sept 29 2 km E Mt Wilhelmina, Netherlands New Guinea 3800 m.
1 in 101 traps. Caught in small runway through moss depression in heath open heath growth. The general region was that of very limestone, tables which had become overgrown with fuzzy moss, moss covered rotting trees, moss covered herbaceous plants.

Oct 12 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
13 in 350 traps. The 4 which I removed from the traps were taken from traps set in runways (semi clear) beneath moss covered fallen trees and about the mossy bases of living trees. They seem to inhabit the base of the mossy forest.

Oct 13 9 km NE Lake Habbema, Netherlands New Guinea 2800 m
9 in 431 traps. Their habitat appears to be the moss covered litter and growing vegetation which covers the forest floor. They have runways beneath the fallen logs, about roots and in similar protected places beneath the mossy litter.

Oct 14 9 km NE Lake Habbema, Netherlands New Guinea 2800 m.
2 in 431 traps. Brought in by collectors from traps set in mossy forest.

Stenomys

Oct 15 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m
1 in 431 traps. Brought in by collectors.

Oct 16 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m
3 in 431 traps. Taken in traps set beneath the mossy litter of the forest; about fallen logs, bases of trees etc.

Oct 17 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
6 in 431 traps. Habitat is that of the small trails in and about the mossy covered litter of the mossy forest.

Oct 18 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m
3 in 425 traps. Caught in traps set in runways and beneath logs, etc about the litter of the mossy forest floor.

Oct 19 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
2 in 425 traps. Taken in the mossy forest where small trails are to be found in brushy patches or about litter. The conditions are usually moist mossy ground or litter covering.

Oct 20 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m.
1 in 220 traps. Trap set in runway through brush and litter of the semi open mossy forest.

Oct 21 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m
13 in 418 traps. A thing of interest today in the specimens taken was the fact that most of them were taken in the pandanus or brushy areas of the canyon slopes in the mossy forest rather in the pure forest of the upper ridges.

Oct 22 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m
2 in 418 traps. Taken in runways through the littered brushy undergrowth of the canyon mossy forest.

Oct 23 9km NE Lake Habbema, Netherlands New Guinea 2800m.
1 in 418 traps (discarded) Brought in by collectors.

Oct 24 9km NE Lake Habbema, Netherlands New Guinea 2800m.
3 in 414 traps. 2 brought in by collectors. The other taken in ~~one~~ trail beneath the moss covered litter of the mossy forest.

Oct. 25 9km NE Lake Habbema, Netherlands New Guinea 2800m
4: 3 in 414 traps, 1 brought in by natives. The three ~~bought~~ taken in traps brought in by collectors.

Oct 26 9km NE Lake Habbema, Netherlands New Guinea 2800-2700m.
6 in 409 traps. Species occurs in both the rain forest and second growth forests along the stream side land slips. The preferred thing seems to be litter beneath which are then runways. The rain forest seems to ~~afford~~ a greater quantity of such runways.

Oct 27 9km NE Lake Habbema, Netherlands New Guinea, 2700m.
2 in 413 traps. Both brought in by collectors.

Oct 28 9km NE Lake Habbema, Netherlands New Guinea 2700m.
4 in 413 traps. Brought in by collectors from traps.

Oct 29 9km NE Lake Habbema, Netherlands New Guinea 2700m.
2 in 413 traps. Brought in by collectors.

Oct 30 9km NE Lake Habbema, Netherlands New Guinea 2800m.
3: 2 in 413 traps, 1 brought in by natives.

Oct. 31 9km NE Lake Habbema, Netherlands New Guinea 2800m.
1 in 413 traps. Taken from beneath log in litter of Mossy forest.

Nov 1 9km NE Lake Habbema, Netherlands New Guinea 2800m.
1 in 413 traps. Brought in by collecting boys.

Stenomys

Nov 2 9 km N E Lake Habbema, Netherlands New Guinea 2800 m.
1 in 197 traps. Brought in by collectors.

Nov 4 9 km N E Lake Habbema, Netherlands New Guinea 2800-2700 m.
2 in 347 traps. #5353 taken beneath rotting log on littered brushy canyon slope of mossy forest. The other individual brought in by native. Present.

Nov 5 9 km N E Lake Habbema Netherlands New Guinea 2800-2700 m.
4 in 347 traps. Taken in ~~an~~ littered areas of the mossy forest. Favorite runways seem to be beneath rotting mossy logs.

Nov 6 Bele River, 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives.

Nov 9 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2: 1 in 309 traps, 1 brought in by natives. The one in traps brought in by collectors who line of traps is in the heavy forest.

Nov 10 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2: 1 in 308 traps, 1 brought in by natives. The one taken in the traps from trap set in runway about the roots of a tree in the heavy forest.

Nov 11 Bele R., 18 km. N Lake Habbema, Netherlands New Guinea 2200 m.
4 brought in by natives.

Nov. 12 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 308 traps. Taken in the forest litter at the edge of a small grassy opening.

Nov 14 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2: 1 brought in by natives, 1 in 308 traps #5567. Taken in trap set in runway through heavy litter of the forest floor. The area had been rooted up by the native pigs.

Nov 15 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
3 brought in by natives.

Nov 16 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 416 traps. Taken by collectors in forested region.

Nov 17 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
5 brought in by natives.

Nov 19 Bele R., 18 km N Lake Habbema Netherlands New Guinea 2200 m.
10 brought in by natives.

Nov 20 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
18 brought in by natives.

Nov 22 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
4: 2 brought in by natives. 2 in 404 traps.
The trapped animals were taken from traps set in runways beneath logs in littered forest area.

Nov 23 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 404 traps. Taken in a very dense second growth brush thicket. Trap was set in a small runway over the bare and bent the bare of the brush.

Nov 25 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 in 404 traps. Taken in runway through litter in of the same forest where there was an open growth of of underbrush.

Nov 27 Bele R., 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
7: 6 brought in by natives, 1 in 404 traps. #6171
Taken in forested area, heavy undergrowth and litter, and on forest floor of leaves, small runway.

Nov 29 Bele R., 18 km N Lake Habbema Netherlands New Guinea 2200 m.
1 in 411 traps. Taken in a littered area in the forest. Habitat the heavy forest growth, litter ~~and~~ open cover of brush over the litter of logs and leafy forest floor.

Stenomys

Dec 2 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
9 brought in by natives.

Dec 10 Balim R. ~~18 km N Lake Habbema~~, Netherlands New Guinea 1600 m.
1 in 199 traps. Taken in a small mossy through a mixed cover of grass and shrub along a small creek.

Dec 11 Balim R. Netherlands New Guinea 1600 m.
1 in 384 traps. Taken by collectors in trap line, set through abandoned gardens, thin borders, or near by weeds.

Dec 12 Balim R. Netherlands New Guinea 1600 m.
1 in 380 traps. Taken in mixed cover of bracken and grass along drainage [?] ditch of an abandoned native garden.

Dec 13 Balim R. Netherlands New Guinea 1600 m
1 in 380 traps. Brought in by collectors.

Jan 10 15 km SW Bernhard Camp, Idenburg R. Netherlands New Guinea 1800 m.
1 in a catch of part of the 193 mouse traps. These traps are set this morning and some 5 hrs later the animal was removed from the trap. This would show that the beast is at least partly diurnal. It was taken at among the tangled root base of a large tree in the mossy forest.

Jan 11 4 in 425 traps. This animal inhabits ~~[illegible]~~ the mossy forest where there are little such as log, mossy rock, open root system. Traps in which they were taken were set ~~that~~ beneath old moss covered logs, at the base of trees where are exposed root system, and beneath moss covered rocks. Here in the damp places are trails worn bare (or just lacking) of moss.

Jan 12 3 in 425 traps (1 discard). Of the two specimens prepared one was taken in traps set beneath a mossy log and the other among the spreading buttressed roots of one of the forest trees.

Jan 13 1 in 426 traps. Taken beneath log in a runway. Runway was big, apparently used by several sp. of mammals.

Jan 14 15 Km SW Bernhard Camp, Idenburg R., Netherlands New Guinea 1800 m.

3 in 425 traps. Two brought in by collectors. Other individual trapped in obscure runway through a small undergrowth thicket of a moist hill slope.

8 in 420 traps. In every case the beast was
Jan 15 taken from a runway under cover of logs, thick undergrowth or root masses.

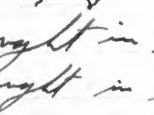
Jan 16 4 in 420 traps. Brought in by collectors.

Jan 17 7 in 419 traps. Taken in small runways through undergrowth thickets or about litter.

Jan. 18 2 in 421 traps. Brought in by collectors.

Jan. 19 2 in 421 traps. One taken in small runway through the undergrowth, the other was taken beneath a log in a litter trap.

Today, about 3:30 PM I saw one of these animals running along beneath a fallen log, in what would be considered to be a well worn runway. It held its tail rather high and stiff as it ran and jumped along the rocky surface of the run way.



Jan 20 1 in 421 traps. Brought in by collectors.

Jan 22 1 in 421 traps Brought in by collectors.

Jan 23 1 in 421 traps " " " "

Jan 25 1 in 420 traps Taken in a runway beneath a small moss covered log in a littered forest area.

Jan 26 5 in 419 traps. Taken in most protected (sheltered) spots such as under the cover of mossy logs, about the exposed roots of trees, and in litter.

Feb 1 18 Km SW Bernhard Camp, Idenburg R., Netherlands New Guinea 2150 m.

1 in 143 traps. Taken in small runway beneath moss covered litter in low thick mossy forest.

Feb 4 7 in 415 traps. Taken under or near moss covered logs and other litter of the mossy forest. The area in which these were taken differs from previous mentioned areas in that the forest has a moderately heavy undergrowth of bamboo, which forms a leaf litter on the floor of the forest tending to block out the moss.

W. B. Richardson
1939.

Stenomys

Feb 5 ~~18 km SW Bivouac Camp Idenburg R. Netherlands New Guinea~~ 2150 m.
6 in 4 11 traps. Taken in ~~and about~~ ~~[illegible]~~ runway about litter. Habitat Mossy forest with bamboo undergrowth.

Feb 6 1 in 4 11 traps. Brought in by collector.

Feb 8 3 in 4 11 traps. Taken about litter, in small runways. Habitat Mossy forest with bamboo undergrowth.

Wm. B. Richardson
1938

Sus

July 5 Hollandia, Netherlands New Guinea.
A juvenile animal of this species was brought in this afternoon by a local native. According to him he caught it in nearby "Momine". During my hunting here in the jungle I have seen many signs of this animal. Such signs are not limited to the jungle alone but to swamps and grass land as well.

July 12 Hollandia, Netherlands New Guinea
A sub adult of this sp. was brought in yesterday by the Dyak collector. They had shot it in the jungle nearby. It did not have the looks of a jungle pig but more like the domestic ones seen in this community. Skull only was saved.

July 14 Hollandia, Netherlands New Guinea.
A juvenile of this genus was brought in today. I do not know the exact locality from which it was taken.

Aug. 15 Lake Habbema Netherlands New Guinea, 3225 m.
Up to date no signs of wild pig have been seen in this region. Fresh the footprints of young animals have been seen accompanying those of natives passing through. Parts of a skull and skeleton of a small pig were seen at one of their houses near the lake. The remains had been burnt.

Dec 17 Baliem R. Netherlands New Guinea ~~[illegible]~~ 1600 m.
1 individual bought from native. Several (4 to 6) pigs of this size have been purchased by us from the natives but they are reluctant to sell a larger one. The pigs are one of the family, living in the same house with the women, often becoming as tame as dogs. They vary in color from black to white and with all types of markings. The ♀s are often

castrated. In fact I have not seen an adult ♂ in this vicinity. The litters observed have varied from 1 to 3 young. They are an important part in the native life furnishing food for feast etc., grease for their black paint, grease for their bows and spears, ornaments such as tails, tusks, and the canine teeth.

Apr. 17 Bernhard Camp Idenburg R. Netherlands New Guinea 75 m.

I shot this afternoon by collecting boy. There are many signs of pig in this region both on the flood plain and hill slopes. They are apparently shy for they have left the vicinity of camp being necessary now to go some distance to obtain them in fresh tracks. At the last camp 850 m. there were a few pigs in the vicinity although none were obtained. This beast was barren, no ova.

Apr. 20 I shot by Rando collecting boy on upper flood plain. While out hunting today my boys saw 3 but were unable to get them.

Wm. B. Richardson
1938

Syconycteris

Dec. 13 Balim R., Netherlands New Guinea 1600 m.

2 individuals shot. A number were seen flying low (6-10 ft. th ground) along the open forested bank of the river. This strip of forest [?] is made up principally of casuarina and fig trees. The latter furnished the, or part of, the food of this bat. They are seen congregated about these trees, flying in, alighting and again flying away. The stomach contents of the 2 bats were that of fig & other types of fruit were not discernable. The bats on alighting on the branches would often utter a series of squeaks which were repeated during the course of feeding. The ♀ contained no embryos but the 2 mammary glands were functional. That is milk could be squeezed out from them. Fox collected the mites.

Dec. 16 Balim R., Netherlands New Guinea 1600 m.

1 shot by collector. These bats usually appear in this vicinity about 8:00 in the evening and seemingly coming up from the south.

Wm. B. Richardson
1938
1939

Chromys

Oct 17 9 km. NE Lake Habbema, Netherlands New Guinea 2800 m
1 in 24 stub traps. Brought in by collector. Probably taken in traps set in one of the layers, well defined runways which are fairly common on the floor of the mossy forest.

Nov 10 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives. Virgin forest.

Nov 17 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m
1 brought in by natives. v.f.

Nov 20 Bele R. 18 km N Lake Habbema Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 21 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Nov 25 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Nov 28 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Dec 1 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
2 brought in by natives.

Dec 3 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Dec 4 Bele R. 18 km N Lake Habbema, Netherlands New Guinea 2200 m.
1 brought in by natives.

Feb 6 18 km SW Bernard Camp Doorlang R. Netherlands New Guinea 2150 m.
1 in 27 stub traps. Brought in by collector. Said to have been taken in traps set in hard floor over open forest floor. Habitat Mossy forest with bamboo undergrowth. The eyes of ~~g~~ emb. a gray. Animal very fat.

Feb 10 18 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 2150 m.
1 in 32 snares. Brought in by collectors. Taken in a large runway ~~over~~ along a ridge. Habitat mossy forest. This animal was one which had previously been taken in a steel trap but had escaped leaving its foot behind (now in pickle). It was caught in a snare some ½ km away from any steel traps. I ~~wonder~~ wonder if this animal under ordinary circumstances covers such a large area. Stomach contained remains of fruits. There are only 4 pair of mammary glands. Not lactating. No signs of ent.

Feb. 14 6 km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1200 m.
1 in 27 steel traps. Brought in by collector. Testes enlarged.

Feb 15. 1 in 17 steel traps. Brought in by collector. Stomach contained fruit remains. No green stuff apparent. Testes enlarged.

Feb. 25 1 in 134 snares. Taken in a runway on a large mossy log which formed a low bridge over a small stream. Habitat streamside low open undergrowth, thick second story growth shading the stream and open forest. Stomach contained the remains of fruit.

Feb 27 1 in 182 snares. Male with testes enlarged. Long vibrissae ~~many~~ of which were removed during careless preparation of the specimen.

Mar 2 1 in 182 snares. Brought in by collector. Stomach contained remains of fruit. There were only 2 posterior pair of mammary glands. 1 ent. present.

Mar 5 1 in 27 steel traps. Brought in by collector.

Mar. 7 1 in 231 snares " " " "

Mar. 8 4 km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 87 snares. Brought in by collectors. Stomach contained remains of fruit. No ent, vagina open enlarged. 4 mammae [2 pair] posterior. According to collectors taken in forest.

Chromys

Mar. 9. 4 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 141 snares. Brought in by collector.
Stomach contained fruits. No ent. 4 (2 pr.) mammae.

Mar. 12 1 in 27 stub traps. Brought in by collector.

Mar. 12 6 Km SW Bernhard Camp Idenburg R. Netherlands New Guinea 1250 m.
1 in 231 X2 snares. Brought in by natives. No ent. Stomach contained ~~unident~~ of fruit. 4 (2 pair) pectoral mammae.

Mar. 21 4 Km. SW Bernhard Camp Idenburg R. Netherlands New Guinea 850 m.
1 in 670 snares. Brought in by collector.
4 mammae (pectoral). No ent.

Mar. 27 1 in 27 stub traps. Brought in by collector. Taken ~~on~~ in trail along ridge through mossy forest.
Stomach empty. Testes enlarged.

Mar. 28 1 in 845 snares. Brought in by collector.

Mar. 31 1 in 27 stub traps. Brought in by collector.
Taken on a ridge in the mossy forest.
4 Mammae, long, pectoral, not lactating. No ent. Stomach contained fruit remains.

Apr. 3 1 in 987 snares. Brought in by collector.

Apr. 4 1 in 998 snares. Brought in by collector.

Apr. 7 1 in 1075 snares " " " "

Apr. 14 Bernhard Camp Idenburg R. Netherlands New Guinea 75 m.
1 in 27 stub traps. Brought in by collector.
Taken on a ridge of lower foot hill. ~~slope~~. Stomach contained remains of fruit.

Apr. 15 1 in 27 stub traps. Brought in by collect.
Also taken on ridge, at base of foot hills above flood plain.

Apr. 16 2 in 268 snares. Brought in by collector.
Were taken on lower mountain slopes just above flood plain.

Apr. 30 1 shot last evening. When first seen scampering through shallow water and over the litter of the recently inundated forest of the lagoon border. On being pursued it climbed a tree some 6 ft up when it was shot. It climed up the trunk of this tree clinging

to the vines. It moving rapidly and easily. + mammary glands been functional.

May 1 Dearborn Camp Idenburg R. Netherlands New Guinea 50 m.
I shot yesterday evening. It was on one of the narrow strips of land along the flooded lagoon. High water has made these areas into islands. They are usually forested with a heavier taller vegetation than the lower, more frequently inundated, areas. The rat was seen running along the ground through the undergrowth when it was shot.

May 8 1 in 27 steel traps. Brought in by collector. Taken on low mountain slope.